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HEALTH FOR ALL – A CHALLENGE TO RESEARCH IN HEALTH MANPOWER DEVELOPMENT

XVIth CIOMS Round Table Conference
Edited by: Z. Bankowski and J.H. Bryant

PUBLISHED BY THE COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES

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HEALTH FOR ALL – A CHALLENGE TO RESEARCH IN HEALTH MANPOWER DEVELOPMENT

Proceedings of the XVIth CIOMS Round Table Conference
Ibadan, Nigeria, 24-26 November 1982

Edited by: Z. Bankowski and J.H. Bryant

COUNCIL FOR INTERNATIONAL ORGANIZATIONS
OF MEDICAL SCIENCES

GENEVA 1983

The Conference was co-sponsored by the World Health Organization, the Federal Ministry of Health of Nigeria, the College of Medicine of the University of Ibadan, and the Lambo Foundation for the Advancement of Biomedical and Bio-behavioural Sciences, Nigeria.

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Note on CIOMS

THE COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES (CIOMS) is an international nongovernmental scientific organization established jointly by WHO and Unesco in 1949. Through its membership, CIOMS is representative of a large majority of the biomedical scientific community. In 1983 there are sixty-five international member organizations, representing a large proportion of the biomedical disciplines, and twenty-seven national members, representing national medical academies of sciences and medical research councils. The main objectives of CIOMS are: to facilitate and to promote international activities in the field of biomedical sciences especially when the participation of several international associations and national institutions is deemed necessary; to maintain collaborative relations within the United Nations and its specialized agencies, in particular with WHO and Unesco; and, to serve the scientific interests of the international biomedical community in general.

The main fields of activities include:

Bioethics — particularly research involving human subjects, and the protection of prisoners against torture and maltreatment;

Drug Development and Use — medical, social and economic implications;

International Nomenclature of Diseases — internationally agreed and recommended names and definitions for every disease;

Biomedical Research Involving Animals — international guiding principles; and

Health Manpower Development — promotion of study on health services and health manpower development in relation with primary health care.

The methods used by CIOMS for achieving its objectives are the organization of ROUND TABLE CONFERENCES on subjects that are both topical and of international significance and the preparation of INTERNATIONALLY AGREED GUIDING PRINCIPLES. The conferences provide international forums for the exploration not only of the scientific and technical aspects of new developments in biology and medicine but also of their social, ethical, administrative, and legal implications.

Introductory Note

During the past fifteen years the Council for International Organizations of Medical Sciences (CIOMS) has organized a series of Round Table Conferences on subjects that are both topical and of international significance. These conferences provide international forums for the exploration not only of the scientific and technical aspects of new developments in health sciences but also of their social, ethical, administrative, and legal implications.

Participants in these conferences are prominent representatives of their respective fields of medicine, biology, philosophy, sociology, law, and administration and it is felt that this multidisciplinary approach can best provide insight into issues that are no longer exclusively within the specialized domain of any one profession.

The XVIth Round Table Conference on Health Manpower Development which was jointly organized by CIOMS and WHO was held in Ibadan, Nigeria in November 1982.

The Conference, attended by more than 200 persons from 50 countries, addressed some of the fundamental problems facing the nations of the world as they attempt to develop health services and health manpower appropriate to the goal of Health for All.

The editors of the conference proceedings greatly regret that, due to technical reasons, it was impossible to recuperate from the tape recordings the contributions during the discussions. However, a summary of the discussions entitled "Highlights of the Conference", is included in this volume.

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OPENING ADDRESS

by the President of the Council for International Organizations of Medical Sciences, Dr Murillo Belchior

It is my pleasure to call this meeting to order — First of all I want to express our appreciation to His Excellency Mr D.C. Ugwu, the Federal Minister of Health of Nigeria, Prof. S.O. Olayide, Vice-Chancellor of University of Ibadan, Prof. E.O. Akande, Provost of the College of Medicine University of Ibadan and Dr T.A. Lambo, Deputy Director-General of the World Health Organization, for their support and contribution to this meeting.

This XVIth Round Table Conference of the Council for International Organizations of Medical Sciences is devoted to the theme "Health for All — A Challenge to Research in Health Manpower Development".

As you know, the thirtieth Session of the World Health Assembly declared in 1977 in a historic Resolution (WHA30/43) that "the main social target of governments and WHO in the coming decades should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life". The implications of this target require a commitment to action at all levels, a revolutionary change in health policy encouraging the application of new strategies in planning and executing health care activities, and use of the most appropriate technology. We all agree that health manpower development demands a radical reorientation.

The World Health Assembly and the WHO Executive Board have stressed through many resolutions the need for the improvement and the provision of more diversified personnel. This is very important because we know that health personnel represents a very costly resource in the provision of health care. It has been estimated that three out of four dollars spent on health services are invested in health personnel.

The specific objectives of the Ibadan Conference are to examine the research requirements in the area of Health Manpower Development as a requisite to achieving the target of "Health for All".

The Conference will therefore:

— review problems encountered in the planning, development, and management of personnel for the health services of all people in a given community;
— identify the contribution at present made and that which is required of research in health manpower development if Health for All is to be obtained;
— indicate the necessary action to be taken at all levels to overcome present obstacles to research;
— outline practical ways and means to meet the challenge of developing sufficient health manpower.

For the achievement of these objectives it is very important that the Conference is sponsored by and organized in cooperation with the World Health Organization, the Federal Ministry of Health of Nigeria, the College of Medicine of the University of Ibadan, and the Lambo Foundation for the Advancement of Medical and

Behavioural Sciences. Not only could we profit from the excellent facilities of the Conference Centre of the University of Ibadan, but it became possible too to have the contributions of considerable numbers of Nigerian scientists and policy makers. Nigeria has addressed the problems of health manpower development research with great vigour and has collected experiences over a considerable period of time. This provides an excellent and realistic setting for this Conference.

I hope this Conference will provide a formulation of policies leading to the development of a plan of action and will encourage the use of appropriate strategies and training resources.

Address of Welcome by the Honourable Minister of Health, Mr D.C. Ugwu

I would like to begin by thanking the Officers and Members of the Council for International Organizations of Medical Sciences (CIOMS) for selecting Nigeria as the venue for this year's Round Table Conference. I also appreciate the honour that you have done me by asking me, as Minister of Health, to host your Conference and to formally declare it open. By honouring me in this way, you are also giving honour to the Government and people of the Federal Republic of Nigeria.

I understand that this is the first time that you are holding this Conference in tropical Africa. Your meeting here is not only an acknowledgement of the size and potentials of Nigeria as a country; I believe it is also a way of paying some tribute to the contribution that Nigeria and Nigerians are making in the field of biomedical research and health care.

At independence, in 1960, out of a total of 1079 medical practitioners registered in Nigeria, only 349 or 32%, were Nigerians and only 16 out of the 49 registered dentists were Nigerians. By 1980, however, Nigeria had 8037 medical practitioners on the Register out of whom 6192 or 77% were Nigerians. Of the 285 registered dentists in 1980, 203 or 71% were Nigerians. Compared with 5938 registered nurses and 2040 registered midwives in 1960, by 1980 the number had risen to 27 241 and 21 411 respectively. Since then, we have maintained this impressive growth rate in the production of our own indigenous manpower for our health services.

Nigeria had only one medical school in 1960. Today there are 12, and only two days ago the Nigerian Association of Colleges of Medicine was inaugurated in this Conference Hall.

In the area of training of specialists for the tertiary level of our health care system, there is now no need for any of our young doctors to go abroad for postgraduate specialist training. Our universities continue to turn out an impressive number of M.Scs., Ph.Ds., and M.Ds., after suitable periods of indepth research into local problems in our own environment. The National Postgraduate Medical College organizes the training and certification of our specialists in various disciplines. During its first ten years of activity (May 1972 to May 1982) 513 resident doctors have passed the Primary Fellowship examinations, 246 the Part I, and 63 the Part II (Finals) Fellowship examinations. In other words, the National Postgraduate Medical College of Nigeria has produced for the country 246 senior registrars and 63 consultants in various medical specialities. The West African Postgraduate Medical College, which is a creation of the West African Health Community, is fulfilling a similar function for all our countries in the West African subregion, including Nigeria.

I am proud of, and salute the achievements of, individual Nigerians in the field of international health. One of them is here today, and I refer to the one and only Dr. T. Adeoye Lambo, the Deputy Director-General of the World Health Organization. The world has now been officially declared free of smallpox. In the global effort to eradicate this scourge from the face of the earth, Nigeria played its part. The vaccines produced in our laboratories in Yaba were sent to sister African countries at very little

or no cost to them and the results of the research activities of our scientists appear constantly in learned journals throughout the world.

Whilst we can take some pride in our achievements, we are fully cognisant of the enormous tasks that still lie ahead of us. This is why the topic of your Conference "Health For All: A Challenge to Research in Health Manpower Development" is so appropriate and pertinent to us. In spite of our tremendous achievements in providing men and materials to enable us to achieve the goal of Health For All by the year 2000, our efforts do not seem to match our needs. We would, therefore, welcome ideas and suggestions for the production of the appropriate manpower and its deployment to areas where its impact can have maximum beneficial effect on our people. We are a rapidly developing country in a hurry to bring the good things of life, including health care, to all our peoples in the shortest time possible. This laudable objective can only be achieved in the context of competing priorities in other areas. Health care must be seen as part of the whole area of social services and not as an isolated item.

Nigeria, like many other countries, is currently facing serious economic problems. This has made it mandatory for us to reorder our priorities. But I can assure you, that whatever economies we make during this process of reordering our priorities, this Government will never permit the health of its citizens to suffer. The present recession with its attendant austerity measures offers a challenge to all professions within the health care team. You must seek new and more efficient approaches to our problems.

It is with great pleasure that I formally declare open the XVIth Round Table Conference of the Council for International Organizations of Medical Sciences.

I wish your deliberations every success and I shall await the publication of the proceedings with great interest.

Address of Welcome by the Vice-Chancellor, Professor S. Olajuwon Olayide

On behalf of the entire University Community, it is with great pleasure that I welcome you to Ibadan. We are proud to place the facilities of our Conference Centre and the whole campus of our University at your disposal.

When this institution started, in 1948 in a disused military hospital as University College, Ibadan, with 90 students, the Faculty of Medicine was one of the foundation faculties. The other three were the Faculties of Arts, Agriculture, and Science. Today, after 34 years, we have evolved into a full University and we award our own degrees up to doctorate level. We now have a student population of over 12 000 and an academic staff of nearly one thousand. The Faculty of Medicine has grown into a College with some limited autonomy over its own affairs. The College, headed by a Provost with almost the same status as the Deputy Vice-Chancellor, consists of two faculties — Basic Medical Sciences and Clinical Sciences, each with their own Dean. A third faculty, that of Pharmacy, is planned for next year. The College has more than 1000 students training for the professions of medicine, dentistry, pharmacy, physiotherapy, and nursing to the degree level. There are more than 50 full professors whose academic output is comparable with professors anywhere in the world.

I have gone into this brief review to draw attention to the contributions that this University has made to the provision of the high level manpower for Nigeria's health care programmes. Furthermore, Honourable Minister, let me repeat for emphasis that the vast majority of those who are teaching and administering our new universities in every field of learning are either graduates of this University or have "cut their academic and administrative teeth" in this University in the infancy of their careers.

The topic of this Conference: Health For All — A Challenge to Research in Health Manpower Development, is highly relevant to us in this University which is the most important source of Nigeria's health manpower.

When we started in 1948, we were the only University producing health manpower for Nigeria. Today, there are several others. Indeed, just two days ago I had the privilege of declaring open the Inaugural Conference of the Nigerian Association of Colleges of Medicine. Whilst 34 years ago we were an only child to be supported by the Federal Government, today the house is full of children in various stages of hunger and malnutrition. Perhaps, Honourable Minister, the time has come for this particular father of the household to consider some family limitation to ensure that the income available is adequate to feed the number of existing children before further procreation is proposed. On our part, we are doing all we can to face up to our present economic realities. But we shall not lower our enviable standards. Those of our guests who have visited us in better days will already have noticed the impact of our poor financial situation on our services such as water and electricity. We have not always been this way. We therefore crave your understanding and sympathy.

For those who are here on their first visit, it is my hope that you will still be able to consider visiting us again.

Once again, welcome to Ibadan. I wish your Conference every success.

Address of Welcome by the Provost, College of Medicine, Professor Oluwole Akande

It is indeed a pleasing assignment for me to welcome all our distinguished participants to Ibadan on the occasion of this most important International Round Table Conference which is being jointly sponsored by the Council for International Organizations of Medical Sciences (CIOMS), the World Health Organization, the Lambo Foundation, the Federal Ministry of Health and our College of Medicine.

The theme of this Conference is a most appropriate one, especially as the year 2000 is less than two decades away. The concept of "Health for All by the year 2000" has indeed gained universal acceptance and the entire world is now poised for the enormous task of defining what action needs to be undertaken to ensure the achievement of the goals and objectives of the concept.

Health manpower development is the key to the implementation of any health programme. In this context, there is need to define more clearly the roles of University Centres for Health Sciences as part of the total effort in the attainment of the objectives. There is no doubt that human resources have a crucial role to play in the overall strategy of the attainment of a suitable and an acceptable level of health for all our citizens. In this regard, it is necessary to train an adequate number of the appropriate types of health personnel who would devise and implement the plan of action. This should involve the reorientation of existing health workers, as well as the motivation and training of all health manpower to serve the community more meaningfully. There is no doubt that, as far as developing countries are concerned, the use of traditional medical practitioners and traditional birth attendants has an important part to play. At the same time, careful attention should be given to the use of voluntary health workers. It is clear that all this cannot be achieved by either the Ministry of Health alone or the University Centre for Health Sciences alone. It is therefore essential for close cooperation and collaboration to be fostered between Ministries of Health and Education as well as all relevant educational and health training institutions. Indeed, a call has been made for a careful reform of our educational programmes to ensure success in this venture.

We in developing countries have the serious problem of having to adapt the traditional health education of the industrialized world which we have inherited to one that is genuinely relevant to the needs of our societies. Similarly, we face the problem of the application of "appropriate technology" to the solution of health problems of such a great magnitude. The dilemma which faces us is further compounded by the conservative attitude of medical personnel which makes radical changes difficult, if not impossible. If, however, we must achieve the required level of health for all our citizens by the year 2000, we must make radical changes in our attitude to health manpower development. We must evolve a pragmatic approach to the solutions of our health problems, based on our peculiar circumstances, and the need to use resources which are within our means. It is evident that this would involve the reorientation of our various curricula for the various grades of health workers whom we are training. It would also involve devising ways and means of producing, in adequate numbers, the required health manpower to face the enormous task.

Honourable Minister, Deputy Director-General of the World Health Organization, Regional Director of the World Health Organization, Vice-Chancellor, Distinguished Ladies and Gentlemen, I believe that this Round Table Conference will produce answers to some of the problems facing us in our effort to produce health manpower for the task of ensuring adequate and acceptable levels of health for our people by the year 2000.

The medical schools in this country are fully prepared to contribute their quota to the achievement of this goal. As part of our effort in this direction, we have just formed a Nigerian Association of Colleges of Medicine (NACOM) aimed at providing a forum for monitoring and advising on the growth and development of colleges, faculties of medicine and teaching hospitals in Nigeria with a view to assisting governments, universities and other bodies charged with the responsibility of executing national policies on medical education and health care delivery services. The Association will also assist government and other agencies in drawing up guidelines in the area of health manpower development that are relevant and appropriate to our own local needs and circumstances. I am convinced that the new body will make a significant impact on the overall strategy of Nigeria to ensure Health for All. We are willing to serve as a 'Think Tank' for the various governments of this nation in the area of health manpower development. We are determined to ensure relevance of our medical curricula to our local needs. We are equally determined to develop appropriate health technology as a back-up to the implementation of primary health care with a view to providing an excellent support to the effort of our governments in the overall strategy for the achievement of Health for All by the year 2000. The time between now and the year 2000 is so short that there can be no more time for rhetorics. We can no longer afford to be complacent in the face of the serious magnitude of the health problems still facing our citizens. We should be totally and uncompromisingly committed to the eradication of disease and the achievement of a satisfactory level of health that will permit our people to live a socially and an economically productive life. For us to achieve these objectives, we must have "all hands on deck".

Finally, I wish to join our Vice-Chancellor in warmly welcoming all participants to the University of Ibadan and in wishing this Round Table Conference every success.

KEYNOTE ADDRESS

by the Deputy Director-General World Health Organization, T.A. Lambo

I would like to take this opportunity to express my gratitude to the President of the CIOMS, Dr Belchior, for his kind invitation for me to give the Keynote Address at this XVIth Round Table Conference. I consider this a great honour. There are in this room today some of the most distinguished people from all the continents.

Although this year's theme is "Health for All: A Challenge to Research in Health Manpower Development", I have nevertheless chosen "Social Responsibility and the Doctor" as the subject of my address this morning.

Forty years ago, Professor Sigerist, one of the most outstanding medical historians of our time, made a very profound and strikingly original contribution to health service organization. Not only did he expand greatly our concepts of the functions of medicine, but he redefined in a manner which was later to be paraphrased by the World Health Organization: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

In a posthumous work published in 1960, Sigerist wrote "The promotion of health moreover requires the provision of a decent standard of living with the best possible living and labour conditions, the promotion of the people's health is undoubtedly an eminently social task that calls for the coordinated efforts of large groups, of the statesman, labour, industry, of the education, and of the physician who, as an expert in matters of health, must define norms and set standards".

I have chosen "Social Responsibility and the Doctor" as the theme of my address, looking at the problems of man from the eyes of health politics, social reform, and economy. Health, in its full context, is embedded in a matrix that is at once historical, social, political, economic and cultural.

In our great drive *for health for all people* we must remember that we are, for the first time looking for something different — something which has social, economic and political connotations. The most appropriate tool to reach this goal — the goal of constructing a new, more correct and more living picture of our society — should be an increased degree of the responsibility of the physician, the health administrator, the politician, the economist, the social planner and others whose intellectual and practical preoccupations impinge upon the welfare of mankind.

All this may sound rather Utopian, or even sound rather mysterious. I consider it a great challenge to our intellect, emotion, imagination and our conscience as leaders. Albert Einstein, the great humanist, a thinker and a scientist of great height once said,

> *"The most experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed".*
>
> *"The World as I See It" 1934.*

A lot has been said of our specialty losing its bearing in a world which becomes more and more difficult to understand. It needed a poet to speak so pointedly about the philosophy of health and the failure of modern medicine to cope with it. The eminent poet Pierre Emmanuel, representing the French Academy, pursued this theme. Medicine today, he said, enjoys the prestige of the magician and electronic engineer, yet it loses sight of the indivisible individual: fails to correlate old wisdom and new knowledge and does not recognize the existence of the potentially sick. The fact that modern man does not have time to be ill adds to his inherent fear of suffering and death, already aggravated by the tendency to segregate the sick in hospitals which virtually become ghettos. He remains alone and dismembered before physicians who think "What to treat?" rather than "Who to treat?".

"For thousands of years" according to Sigerist "the treatment of the sick was considered the primary task of medicine, while today its scope is infinitely broader. Society has given the physician four major tasks, which although they can hardly be separated since there are no sharp borderlines, yet may be discussed separately for simplicity's sake". The four functions of medicine, as conceived by Sigerist, include the promotion of health, the prevention of illness, the restoration of the sick, and rehabilitation. To this I would add, the total well-being of man — these are some of the new parameters of a changing orientation of health. Disillusionment with many international development efforts to meet basic needs has been increasing at all levels and especially among the underprivileged whose support, nevertheless, is vital for the attainment of *international development goals,* partly as a result of the obvious disparities between the social goals that have been ostensibly proclaimed and the realities that are daily becoming more apparent.

In this critical period of accelerated and exponential growth of science and technology, the question which remains to be answered is: How can man retain his unique central position as "the means and the end of development" and as a living reality and an aesthetic, ethical, moral and human person, "in the infinite variety of his needs, his potentialities and manifold aspirations?" The battle over the answer to this question has raged for many decades.

Throughout history one could trace both the concepts of health, and the specific modes of living which were advocated to achieve it, in Greece, Rome, the medieval period, the renaissance and reformation, and the era of industrialization down to the present day. One noted how these applied to the different social classes in each society, and how they related to definite political philosophies. One could see the tremendous role played by popular books on hygiene such as the *Regimen sanitatis salernitanum, the catechism of health* of Bernard Christoph Faust and the *Art of Prolonging Life* by Christoph W. Hufeland, which was first published in German in 1797, translated into eight languages, and reprinted frequently throughout most of the nineteenth century. The great wisdom, philosophy of living, etc., contained in ancient Arabic medicine.

Sigerist defines health, but only after completing his historical survey. He states:

> *"This long historical analysis has given us a clearer view of health and its significance for human welfare. Like the Romans and like John Locke, we think*

of health as a physical and mental condition. Mens sana in corpore sano *remains our slogan. But we may go one step further and consider health in a social sense also. A healthy individual is a man who is well balanced bodily and mentally, and well adjusted to his physical and social environment. He is in full control of his physical and mental faculties, can adapt to environmental changes, so long as they do not exceed normal limits: and contributes to the welfare of society according to his ability. Health is, therefore, not simply the absence of disease: it is something positive, a joyful attitude toward life, and a cheerful acceptance of the responsibilities that life puts upon the individual".*

Six years later, the constitution of the World Health Organization paraphrased Sigerist's definition in its much quoted declaration that:

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

In medicine, enormous advances have been made in many of its disciplines and technologies have brought in their wake new achievements. But our touching faith in the omnipotence of technology has been eroded. Paradoxically, the same technology has the power to demoralize and estrange us from one another. For example, we no longer know how to look, to listen and to feel. Too much reliance is being laid today on obtaining hard data through technology, and too little emphasis on man. We see technologies that are more and more sophisticated, while the situation of people — men, women and children — deteriorates more and more. I have alluded to this simply to make it clear from the start that medical science and technology by *themselves* alone are powerless to achieve the quality of life which we all desire, unless their development goes *pari passu* with re-education and great changes and social reforms in the organization of our contemporary society.

Maybe one, at this juncture, would be tempted to subscribe to the dialectical activity seen by Hegel in his critique of Marx philosophy of want when he stated:

"The doctrine that man is the highest being for man: to the categorical imperative to overthrow all conditions in which man is humiliated, enslaved, despised, and rejected".

Man needs a faith, a hope, and a purpose to live by and to give meaning and dignity to his existence.

Some will still argue that we need more knowledge, improved standards of technology or even new theories of econometrics, to secure better life and better future for man. To them, I can only, once again, refer to "Einstein: The Man and his Achievement". I can vaguely recollect a beautiful remark when he criticized a well-known American physicist. Einstein said that he could not really understand how anybody could know so much and understand so little! Einstein always emphasized that you could know too many facts and get lost among them. Once he said, "Who would have thought around 1900 that in fifty years time we would know so much more and understand so much less...". Nowadays, one can be happy if one is not trampled down by the stampede of the buffaloes. Only recently have scientists themselves begun to realize that any increase of knowledge does not at all necessarily

work to the advantage of the human race and to be willing, though reluctantly, to accept some responsibility for what is done with the knowledge they uncover.

Yet, it is indeed necessary, if we are to achieve the ultimate goal of *health for all* (i.e. social justice, equity, fairness and security for all) to learn to understand, interpret and manage man's inner feelings, his anguish or his joy, his fears and insecurity, his want, or everything he holds dear and sacred, and his constant search for himself. These are not easily discernible through exotic diagnostic tools and technology such as microelectronics. Again, allow me to quote from Einstein. When asked whether he thought that everything could ultimately be expressed in scientific terms, he replied: "Yes, that is conceivable, but it would make no sense. It would be as if one were to reproduce Beethoven's Ninth Symphony in the form of an air-pressure curve". "One thing I have learnt in a long life", he once said, "is that all our science, measured against reality, is primitive and childlike — and yet it is the most precious thing we have".

It is now time to undertake more systematic, long-term, and focused research into the type, the grade of human resources we need that will have a substantial probability of improving human conditions and programmes that can then be evaluated in ways that will produce more definitive results. Otherwise, the year 2000 may usher in greater achievements in science technology, in medicine and more luxuriant economic theories and yet witness half-starved, depressed human masses, gasping for air, short of sweet water, struggling to avoid the constant presence of one another, living at a degraded subsistence level, with all those fellow creatures that now share our planet with us either exterminated or domesticated and bred out of any resemblance to what they once were. Alternatively, the world of the Twenty-first Century could be a happier one in which most human beings would be better fed than at present and would have more hope for the future. My main thesis is that man should be the measure of all things. It presupposes that a new revolution, by which I mean, a total change in economic, social, international relationships, in the management of resources, in political power, in culture, value system, and the concept of individual freedom can take place in both developed and developing countries simultaneously. We are indeed in a race with time and time is not on our side. Being under enormous pressure, our present situation represents, as I see it, the best chance of learning what might work.

"On the Possibility of a New Man" is a subject that has been thoroughly dealt with at every level of human intellect — probably best illustrated in the prose poem recited by Ivan to Alyosha in the exchange between two of the brothers Karamazov. Two of Dostoevsky's contemporaries, Nietzsche and Marx shared his concern and optimism in their affirmation of the possibility. In recent times, the problem of searching for the possibility of a new man has been the topic of recent works — Reich's "The Greening of America", Toffler's "Future Shock", Revel's "Without Marx or Jesus", Thompson's "At the Edge of History", Skinner's "Beyond Freedom and Dignity", to quote only a few.

We must continue to work together — the intellectuals, the scientists, the political chiefs, men and women — and search for those conditions and favourable environment, knowledge that will enhance the qualify of life of all people.

"Of all the communities available to us, there is not one I would want to devote myself to, except for the Society of True Searchers, which has very few living members at any time". (In letters to Max Born by Einstein, 29 April 1924).

Once again, I would like to emphasize that man, in his despicable condition, can be happy only with freedom, faith and love, including certainty of bread. Here I would like to refer to that great twentieth century philosopher Jean-Paul Sartre, in his *Search for a Method* and in his excellent discussion on freedom and determinism when he says that "Within this living universe, man occupies, for us, a privileged place" characterized by freedom and dignity.

But the forecast of, and call for, a radical change in mankind, a change that will see true humanity emerge for the first time from the species that had been only potentially human, may be too much for our complacency to take. Yet we need to free man from the servitude and socioeconomic alienation: we need a new man — a man with renewed energies and imagination — a man who is part of the living world.

On our part, we in the World Health Organization are fully committed to all efforts that are directed towards achieving the new international economic order through better health. Men will grow increasingly discontented with a conception of their socioeconomic profile that does not fit the facts of their pressing needs. Wealthy and technologically privileged countries should discard their downright scorn or proud defiance and show great concern — a diagnosis of facts or an ideology.

"... Man remains very much as he was when history began. He learns no more efficiently than a pupil in Plato's Academy learnt. He thinks no more deeply than Plato thought. His chromosomes are conservative and resistant to change. He responds to new environments not by innovations in his heredity but by the marvellous adaptability of his ancient genetic heritage. This adaptability would be impossible if the only channel of inheritance from one generation to the next were through the sperm and the egg. In man — and in man alone — there is a second channel of inheritance. The accumulated knowledge and traditions of society are inherited not through the chromosomes but through social consciousness and re-education. Over this channel of inheritance we have some influence and we can assume some responsibility".

(Erich Ashby: "Humanities for the Technologist, 1957").

The value of the improvement in total health and social well-being of individuals that would result from such an assumption of some responsibility in the field of health cannot be over-estimated.

Now, I think the question remains: where and how do we all start this movement? During Einstein's Zurich stay a woman doctor, Paulette Brubacher, asked the whereabouts of his laboratory. With a smile he took a fountain pen out his breast pocket and said, "Here"!

HEALTH FOR ALL: A CHALLENGE TO HEALTH MANPOWER DEVELOPMENT RESEARCH

THE NATURE OF THE CHALLENGE

J.H. Bryant

INTRODUCTION

The national development of health manpower — planning, production and utilization — in ways that are reasonably efficient as well as relevant to the needs of populations is one of the crucial and largely unmet challenges in the health sector today.

Underlying this challenge, and to a large extent shaping it, is the growing global commitment to bringing essential health services or primary health care (PHC) to entire populations, a commitment that is embodied in the goal of Health for All by the Year 2000 (HFA/2000), adopted by all Member States of the World Health Organization.

These two efforts — the development of health manpower and the development of health services, both aimed at meeting the needs of entire populations — are closely interdependent. Health services planned for total coverage of a population but lacking the appropriate quality, mix and distribution of health manpower become a lost promise; health manpower developed without regard for the formulation and content of effective health services risks missing the most pressing needs of the population.

But the effective interaction of these two lines of health development is at once complex and difficult to coordinate: complex from a sheer technical perspective because of the problem, common to both, of planning and managing scarce resources to meet enormous needs; and difficult to coordinate because different and frequently conflicting agencies and professional groups have authority over the development of health services on the one hand and health manpower on the other.

Within these interactive and interdependent relationships there are many unresolved questions relating to health manpower development (HMD), such as:

- What levels and competencies of health workers are required for PHC aimed at total coverage of populations?
- What are the most effective types of relationships — coordinative, consultative, supervisory — among health workers?
- How should the health workers relate to the individuals and communities to whom they are providing services?
- What should be the interaction of health with other aspects of development, and how should that affect the roles of health workers?

— How should the appropriateness and effectiveness of health workers, and of their training and deployment, be evaluated?

Such questions bring the matter of research on health manpower development into focus, as clarification is needed on these questions if planning and policy making in relation to HMD is to be carried out in a sensible manner. Nonetheless, attention currently given to research on such questions is very limited. An odd situation in the health sector is that while 60% to 80% of health system budgets go for salaries of health personnel, almost nothing is spent on trying to clarify areas of ignorance that could lead to more effective production and use those personnel.

The reasons for this gap are many, but include prominently:

— lack of definitive policy-making mechanisms for HMD in many countries;
— lack of respect for research on HMD as an authentic area of research (in contrast, for example, to biomedical research); and
— lack of individual and institutional capabilities for HMD research.

At present, any realistic hopes for progressing toward more extensive coverage of populations with essential health services require simultaneous advances in both health services development and HMD, and in both cases enhanced capacities for relevant research are crucial.

This Conference is designed to explore one major component of that area, namely research on the development of health manpower, particularly as it relates to PHC. The participants, agenda and dynamics of the Conference have been planned so as to probe the issues and develop outcomes that will contribute to progress in this important area.

THE EVOLUTION OF HEALTH AND HEALTH MANPOWER POLICY ISSUES

There is no doubt that the concept of HFA is the dominant theme of our time in its influence over policies and programmes relating to health and manpower development. But the concept of HFA is relatively recent, certainly in its current form, and attitudes and policies toward HMD have taken a variety of forms in the past few decades, and with distinct trends.

Fülöp and Roemer[1] have written a highly illuminating study of the evolution of international perspectives and policies on health and manpower from the time following the founding of WHO to the present. A brief review of that material provides an historical framework for considering contemporary challenges in the field of HMD. Their study covers four historical periods, generally following WHO's own historical evolution.

The first period, 1948 to 1951, began with the founding of WHO and saw the emergence of many new sovereign nations. The issue of equity in coverage by health services began to receive some attention, though reactions to it were limited and partial. On the health manpower side, concerns were mainly for shortages and maldistribution of health personnel, and the policy responses involved mainly quantitative production of high quality health professionals.

The second period, 1952 to 1961, was a time of conservatism and caution in international health policies. In WHO, the focus was on technical issues, and matters that were overtly social or political, such as the organization of health services, were generally avoided. Nevertheless, the continued increase in the numbers of developing countries, most of which were poor, added to both the concern and appreciation for the role of poverty in the genesis of ill health. In the health manpower sector, the problems of scarcity and maldistribution and the need for enhanced production remained high among priorities. Attention continued to be claimed by the quality of professional education, particularly international standards and cross-national credentials. Still, planning and management approaches to the problems of health services and manpower drew scant interest. Foreshadowing future developments, the education and training of auxiliaries, particularly in relation to medical care, began to generate both interest and controversy.

The period from 1962 to 1972 was characterized by a transition to broader concerns. The developing countries, still increasing in numbers and now a more coherent political force, insisted on a more systematic approach to the problems of development, and this was soon reflected in the formulation of the United Nations Development Decade. There was also a shift in health priorities with an increasing acknowledgement of deficiencies in planning and administration of health services. Health manpower concerns also broadened. Particularly noteworthy was recognition of the lack of coordination and relevance between the production of health manpower by educational and training programmes and their utilization by health services. The training of auxiliaries continued to promote controversy but there was a consensus forming regarding their legitimate roles. Thus, the trend line had proceeded from major concerns for quantitative, credentials-oriented production of health professionals to relevance between education and need and to integration between production and utilization of health manpower.

The final and most recent period, 1973 to 1980, has seen the still increasing numbers of developing countries (now 74% of the world's nations), and their continued attention to the problems of economic and social development, lead to the formulation of the New International Economic Order. This was followed, in 1977, by the Member nations of WHO[2] expressing their persisting concern for equity in the provision of health services by establishing HFA/2000 as the overriding priority of the Organization:

> *"...the main social target of governments and WHO in the coming decades should be the attainment by all the citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life."*

This concept was elaborated and given further impetus at the International Conference on Primary Health Care in Alma-Ata, USSR, in 1978. The objective of extending PHC to everyone was captured in the language of the Alma-Ata Declaration[3], which went on to say:

> *"All governments should formulate national policies, strategies and plans of action to launch and sustain PHC as a part of a comprehensive national health system and in coordination with other sectors. To this end, it will be necessary to*

exercise political will, to mobilize the country's resources and to use available external resources rationally."

The challenge of equity in relation to both health services and health manpower was now clearly in view, and the health manpower policy issues that rose to the top of priorities reflected this: the training of auxiliaries (concern for international standards of quality in professional education had subsided); relevance between education and the needs of populations; and the integration of health manpower and health services development.

These historical trends are well summarized in Table 1, which lists the major issues that Fülöp and Roemer identified as policy objectives of WHO, together with indications of their importance. This matrix shows the evolution of interests and concerns from quantitative production and quality standards of health professionals to the development of health manpower integrally related to health services oriented toward the needs of entire populations.

MAJOR PROBLEMS FACING HEALTH MANPOWER DEVELOPMENT

The foregoing analysis of the evolution of health manpower policy issues has the effect of presenting an optimistic view of progress in this field. Such trends are a reason for optimism; nonetheless, there are extensive problems as well. This field, as with many others, has a tradition of opposition to change, particularly when changes call for shifts in responsibilities and resources from established to new professions and institutions, or for entirely new educational or institutional objectives, such as to move from a predominant concern for clinical practice to a broader concern for health promotion, disease prevention and health services. (Our later consideration of health manpower development research (HMDR) must also take those problems into account, since the efforts to strengthen research capabilities will inevitably be confronted with the same constraints that are at work in HMD more generally).

In the context of developing and implementing its Medium Term Programme (MTP) for 1978-1983, WHO has identified a series of problems that afflict the area of HMD[4]. The list is extensive, but it should be appreciated that these problems are specifically addressed by WHO through the current MTP and by many of the Member States:

- — inadequate political commitment to a logical long-term plan for developing health manpower to meet the needs of health care delivery to whole populations, coupled with insufficient professional support to the goal of HFA/PHC;
- — the absence of coherent health manpower policies integrated with development policies in other sectors of the national economy, and the low status of health in the distribution of national budgets;
- — the scarcity of national skills in developing and implementing medium- and long-term manpower plans, and consequently the frequent lack of qualitative and quantitative health manpower plans;

Table 1.

Health Manpower Policy Objectives: Approximate evolution in WHO from 1948 to 1980, by time-period and degree in importance*

OBJECTIVES	Period I 1948-51	Period II 1952-61	Period III 1962-72	Period IV 1973-80
Quantity of conventional personnel	x x x	x x x	x x	x
High quality of medical and nursing education	x x	x x x	x x	
Equality of credentials cross-nationally		x x	x	
Geographical coverage in countries		x x	x x x	x x x
Efficiency of production and utilization of health personnel		x	x x	x x x
Planning of health manpower			x x	x x x
Relevance of health personnel		x	x x	x x x
Integration of the development of manpower and services			x	x x x

* The check marks indicate approximate degrees of importance, from slightly important (x) to very important (xxx)

— the acute shortage of managerial skills at all levels to plan and implement health activities effectively within limited resources;
— the scarcity of reliable information at national and international levels to provide a sound basis for the development and regular revision of manpower policies and plans;
— the scarcity of continued research in HMD, as an integral part of health services research, to improve the relevance and effectiveness of all aspects of the HMD process;
— lack of coordination of the HMD process: training institutions often do not take into account health manpower plans, and health workers' activities are not monitored to provide a basis for adjusting planning and training;
— insufficient efforts made for institution strengthening to fulfil the national basic and advanced training and continuing education requirements;
— the irrelevance of curricula to the real needs of health services and populations, due to the lack of coordination between educational institutions and health services;
— lack of clearly developed concepts of team work, in which the roles of various members of the health team are made clear including their interaction with one another and with patients and communities;
— the virtual absence of continuing education systems to maintain and upgrade the competence of serving health staff;
— insufficient deployment and utilization of limited health manpower due to the absence of well-planned activities for training of appropriate categories of staff, and the absence of appropriate career structures, incentives and living and working conditions;
— the uneven distribution, in numbers and in deployment, of different categories of health staff in relation to population needs; and
— the absence of community involvement in decision making, and in evaluation of health workers' performance at all levels, to provide feed-back on the relevance of their work to the real community needs.

RECENT DEVELOPMENTS IN HEALTH FOR ALL AND PRIMARY HEALTH CARE — IMPLICATIONS FOR HEALTH MANPOWER DEVELOPMENT

There have already been enough examples of PHC extending to total populations under conditions of extreme scarcity of resources to know that the central intent of HFA can be achieved even in the poorest countries, at least under selected circumstances.

At the same time, hundreds of millions of people in developing countries have no reasonable access to even the simplest forms of PHC, with the result in many settings that children are unimmunized, mothers are without antenatal and obstetrical care, populations are untreated for treatable conditions, and communities are uninstructed and uninvolved in health matters and health programmes.

These two extremes reveal some of the possibilities and problems of grappling with the concept of HFA. Given the major emphasis in current approaches to HMD of its integration with health services, particularly PHC in relation to HFA, it will be useful to review some recent developments in PHC. The intent here is not to consider in detail how these developments in PHC might influence the planning, production and utilization of health manpower, but more simply to call attention to the kinds of problems, relationships and questions that need to be taken into account in thinking about HMD and related research.

The Challenge of Total Coverage

Foremost among the factors that shape PHC programmes is the imperative that the entire population (community, district, region, nation) should be covered with health services. Where total coverage is not possible, the effort should be to provide relevant services to those most in need or most at risk (of course, health care does not always follow those criteria, a point that does not lessen their importance or validity).

Either approach calls for an epidemiological view of the health problems of the population, an understanding of the health service components that are potentially available, and a planning and management capability for joining the two.

Now consider the implications for HMD. Health personnel throughout the PHC system should understand the general intent of coverage, whether total or selective, and be able to participate in:

- gathering the epidemiological information necessary to define needs and risks and their distribution in the population;
- identifying effective components of the health services that have been or could be developed to address those problems;
- setting priorities in the context of the interaction of needs and services;
- negotiating appropriate programmes through sociopolitical processes;
- providing the services; and
- evaluating the outcomes.

A particular problem for HMD flows from the fact that the capabilities of health personnel involved in these efforts vary greatly — from community health workers with a few months of preparation to health professionals with many years of training — yet they must interact with one another on each of the above activities. The members of the health teams are not only interactive but interdependent: those at the periphery depend on those located more centrally for policy decisions, supplies, training and supervision; and those at the centre depend on those at the periphery for informational inputs to policy formulation, to engage communities in the process of health development and to participate in the provision and evaluation of services.

Integrating Health with Other Aspects of Development

Another aspect of PHC that is increasingly recognized as necessary is the integration of health development with socioeconomic development more generally. (Indeed, here is a place to see a distinction between *Health Services* for All and *Health* for All.)

Health programmes have little chance of taking root when pursued in communities where lives are steeped in poverty and despair, where men find the land unproductive and women have neither avenues for income nor status within their families and communities, and where people have accommodated to hopelessness in life. Experience in a number of countries indicates that such communities must first be helped to grapple with these fundamental problems and learn that even within their poor communities they have resources and skills to bring about substantial improvements in their lives. Then there is an increased likelihood that they will be ready to deal with health as a part of a broad pattern of working constructively with the problems and possibilities of community life. They will see that early death and disability are no longer inevitable, and the treatment of disease and protection of health will become another area in which communities learn to control their own affairs.

Other aspects of development — the building of irrigation systems; arranging bank loans for small businesses for women; starting poultry raising; overcoming class, tribe and caste discrimination — can be carried out side by side with health programmes, and all programmes will benefit from cooperative approaches among workers at the community level.

(Back to the distinction between Health Services for All and Health for All: even when health services *per se* are available to all, they may not be used effectively by a destitute and despondent community whose priorities are employment, water, food and shelter. It is only when such a community is able to progress in these most fundamental areas of human want that they can also absorb and benefit from opportunities to develop in the health sector as well.)

Now to the implications for HMD. All health personnel, particularly those who will deal directly with communities, should understand the fundamental relationships between health and development; they need to have a sense of how the dynamics of even the simplest steps of community development can prepare the ground so that health programmes can take root (for example, the enhanced role of women in the family and community can contribute to their greater effectiveness as mothers); they need to appreciate how health programmes can contribute to development more generally (for example, the organization of a community around health issues can be a step toward the community organizing itself for other aspects of development); and they need to understand that the process whereby the community is involved in steps toward its own development is the crucial factor in the ultimate evolution of that development.

Involving the Communities

A major advance in the development of PHC has been a much broader involvement of communities in the planning, support, staffing and execution of health-related programmes. PHC programmes more frequently engage the participation of the social and political organizations of communities, draw on community resources (ideas, commitment, land, buildings, crops, funds), and use community health workers (CHW).

Consider the health manpower implications. The relationships between the health personnel and the community are social and political as well as technical, and favourable impacts on health depend, in part, on the effectiveness of those relationships. The personnel most directly involved at the community level have the greatest social affinity but the least technical training. The CHW may have the social closeness and technical capability to identify members of the community who are ill or at risk, serve as the channel for reporting information that assists in the formulation of strategies, and also carry recent advances in biomedical and public health technology into health programmes. Those abilities of the CHW will depend extensively on the effectiveness of the consultative and supervisory relationship with other health personnel in the PHC system.

Patterns of Consultation and Referral

Over the past few decades there has been a gradual dawning of recognition, and now it is accepted as obvious, that physicians acting as the sole providers of medical care (even when assisted by nurses and other personnel) cannot reach more than a tiny percentage of the population in need. Later, and following largely from this recognition, extensive use has been made of other types of personnel for health care (variously called medical assistants, rural health officers, etc.), but they too have been found seriously insufficient for reaching the total population.

Apparently it was necessary to experience failure in these efforts before the possibility arose to proceed to the next step, the widespread use of the CHW. Even that step is not without problems — CHW have worked well in some settings and poorly in others — but the concept adds considerably to the potential for achieving total coverage.

A three-tiered system is now widely accepted as a reasonable and practical arrangement for PHC. Community health workers, often part time, function within communities; auxiliaries, or middle-level manpower, are based at health posts or dispensaries; and physicians and nurses work at and out of health centres or district hospitals (other levels or tiers could be regional and central hospitals and health offices).

The supervisory and consultative relationships among the tiers become crucial. The oddity, again, is that health workers of vastly different capabilities see and care for the same set of people and problems. The least trained, most peripheral, must know enough to make decisions about every patient — the nature of the problem, its urgency, whether to treat or refer, whether preventive or promotive steps are appropriate. Personnel at each of the several levels make a similar judgement, conscious of the capabilities and limitations of those at other levels, aware of the need to train or be trained, to seek or provide consultation, according to their capability and the nature of the problems flowing past.

A point can be made here about the medical care, that is the diagnosis and treatment component of health services. An emphasis understandably is focused on the patients who reach the health workers. But these workers must also be continuously alert to the problems and needs of those who do not seek them out. Indeed, a

mistaken priority of medical care is that the patients who seek care, even when their problems are medically trivial, should take precedence, an outlook that can waste resources in relation to need and obstruct the development of outreach and preventive programmes that could benefit larger proportions of the population.

These four examples of recent developments in PHC — the imperative of covering entire populations, which calls for strength in epidemiology and management; the interaction of health development with other aspects of development; the more extensive involvement of communities in planning, supporting and providing health services; and the patterns of consultation and referral, including the CHW — all contain substantial areas of innovation. This broad area of health services and manpower development is in a highly dynamic state of change and, undoubtedly, will continue to change as the world strives to provide basic health services to a growing population. Thus, the need to bring creative thinking and systematic research to bear on this complex of problems is compelling indeed.

RESEARCH AND HEALTH MANPOWER DEVELOPMENT

In the coming decades, HMD will involve issues that are radically different from the past. The evolution over the last three decades of policy issues of major concern to WHO and Member States underscores the rate of change; the ways in which PHC has developed in the quest for HFA signals the extent of change that is underway.

If the rate and extent of change are great, so is the degree of uncertainty. Unanswered questions are on all sides, such as:

- new policy issues flow from the insistence on total coverage, including new formulations of the cost-benefit equation and new ways of looking at the wastage of health manpower between production and utilization;
- new types of health workers functioning in new locations with new competencies call for new modes of training and evaluation;
- established approaches to HMD, which have been of questionable effectiveness in relating to the needs of populations, require reassessment.

In the midst of such change and uncertainty, there remains the enduring understanding of the purpose and value of research: to reduce uncertainty and bring clarity to areas of ignorance. Thus, the potential contributions of research on HMD are very great.

But there are further problems that go beyond the questions to be addressed by research to the organization of research itself — the widespread lack of research capability; the lack of mechanisms to join the output of research to policy and programme formulation; and even the lack of interest in this kind of research.

Our consideration of health manpower development research must deal with the full range of research parameters:

- the nature and methods of health manpower development research;
- the kinds of problems that call for research approaches;

— the obstacles and constraints to health manpower development research; and
— the steps needed to develop viable national systems of health manpower development research that are supportive of the research and provide mechanisms for linking research outputs with policy and programme formulation.

We will consider those parameters in that order.

The Nature and Methods of Health Manpower Development Research

The questions and problems that call for research in HMD are broad and diverse, having to do with policy formulation, planning, training programmes, utilization of health manpower, interprofessional relationships, relationships with communities, families and individuals. The disciplines or fields that can be brought to bear on these areas are also highly varied: health services, biomedical and public health sciences, educational sciences, health administration, health economics, sociology and anthropology, and others.

The research methods that can be used to tackle the problems of HMD need to be varied as well, so that the nature of the problem will guide the selection of the research method.

Since there is great variety among countries in the nature of their problems and in the arrangements for dealing with them, it is necessary that the problems are rooted in the local circumstances, and that the research methods used apply to the local reality of the problems and do not distort the problems to fit a desired research method.

Strömbom[5] has discussed methods of research that can be applied to the problems of HMD. Her observations are very pertinent to the complexity of selecting appropriate research methods to address the variety of research problems, and are worthy of brief review here.

There are basically two orientations to research: the more traditional quantitative approach and the naturalistic or phenomenonological approach. *The conventional approach* has its roots in the positivist tradition. It is concerned with cause and effect relationships, and establishment of the "truth". Its main features are model building and hypothesis testing. Emphasis is put on scientific objectivity, which is claimed to be obtained only through the use of quantitative methods and a strict control of the various research variables. As a consequence, data are collected only on a few variables related to a large number of individuals or phenomena. The generalization of the results is also an important consideration.

The naturalistic approach has developed from the concern for understanding human behaviour and social facts with reference to the particular case or situation. Emphasis is put on studying social phenomena in their proper context or environment, on understanding social interaction and grasping what is really happening. It is an holistic and illuminative approach which focuses on all aspects of a phenomenon or problem. Investigations are based on qualitative methods, in particular those applied in ethnographic research. Through observation, interviewing, questionnaires and analysis of various documents, data are gathered on a large number of variables related to a limited number of people or events. The information collected and analysed is to a large extent descriptive and presented in narrative form.

Few research methods fit exactly the description of either of the above orientations. Some methods are mainly quantitative, others essentially qualitative, while still others have features of the two approaches. The choice of the correct method is a question of matching the mode of inquiry to the particular problems. Any research must be problem-oriented; care must be taken that a problem is not adjusted to a method of inquiry with which one is familiar. Different methods are useful for answering different questions. In order to select adequate methods, it is essential that the investigator is well aware of the variety of methods that could be applied in his field of study considering local conditions and constraints.

With regard to HMD research, the specific nature of the problems related to this field will require that these problems be approached by a variety of methods, and also, to a larger extent than in the past, by a more qualitative type of inquiry. The purely scientific methods are in fact being increasingly criticized as unsuitable for the study of many human and social problems.

Strömbom then describes several research methods that could be applied to HMD problems.

The case study as a research method is the detailed study of a single and well defined unit — the case — in its natural environment. The case may be a single person, a class of students, a health clinic, or any other unit studied as an entity. The boundaries of the case will depend on the purpose of the research. The aim of the case study is to help understand how a unit or a system functions as a whole; to discover the complex relationships that exist within a particular entity; and to study relations among human attributes and activities. The investigations may focus on all or on a few selected individuals within the unit.

Although statistical methods may be used, the case study is normally associated with a qualitative approach, in particular with the methods of anthropological and ethnographic research. It concentrates on a large number of variables related to a limited number of people and events. The information is collected by an individual rather than by a large research team. The investigator serves as the primary research instrument and works in a setting in which he can make observations of a full cycle of events. He usually spends as much time analysing and interpreting the data as collecting them. The information is gathered through a variety of techniques such as: interviews, direct observations, review of various records, reports, tests, etc. The information collected is to a large extent descriptive and presented in a narrative form. Although not aiming at producing "hard facts", the case study still constitutes a systematic way of inquiry. It must be well planned and focused on predetermined questions, while, at the same time, be flexible enough to deal with unexpected discoveries.

The main advantage of the case study is that it permits an holistic approach to a problem under investigation. The descriptive character of the report will allow the reader to better understand what is happening and thus make him more able to make his own judgements. The criticism about the case study refers to its "scientific adequacy". More quantitatively oriented researchers are sceptical about the authenticity of results which depend so heavily on subjective observations and judgements made

by a single person. Comments are also made about the difficulty of generalizing from one or a few cases.

The sample survey is a procedure which permits the study of a population or a large group of people through the selection of a random sample of the total population or group. Inferences about the characteristics of the whole population are then drawn from the sample. Surveys can provide a variety of information about a community or region, which may be useful for needs assessment, planning and evaluation procedures. Data may be collected on health status and utilization of services; behaviour, attitudes and expectations in relation to health and health care; demographic, social and cultural characteristics of the population; etc. Although there are various techniques for the collection of information, it is usually gathered through personal interviews according to some kind of schedule or questionnaire. The data may be analysed through statistical procedures, and thus permit the examination of relationships among variables.

The advantage of the sample survey is that it can generate detailed knowledge about at great variety of phenomena related to a population in its natural setting. It makes available much information which can only be obtained through "asking" people; in particular, it provides information about people who never seek care. Its limitations include the risk of sampling errors; however, the probability of such errors can be reduced through various "safety checks". Another limitation is related to the unreliability of verbal responses.

Experimental methods are used to test causal hypotheses. A main function of the design is therefore to rule out plausible rival hypotheses, i.e., the likelihood that factors other than the independent variables have caused the results obtained. The true experiment thus consists of selecting at random from a defined population two sample groups — one that will be exposed to an experimental treatment, and another that will serve as a control group. Measures of the relevant criteria variables may be taken either before-and-after the treatment or after only. The effects of the treatment is the difference observed between the two groups afterwards. The experimental method thus has the advantage of controlling factors external to the treatment; if any of these factors occur during the experiment, they will most likely affect the two groups equally.

However, randomized assignment of people to experiments is often impossible for both practical and ethical reasons; it is also unethical to deny people service. This situation has led to a greater use of *quasi-experimental methods*. These methods, which do not satisfy the strict requirements of true experiments, are nevertheless very useful for the investigation of many problems. Their effectiveness depends on the extent to which they permit control of the rival hypothesis. There exist a number of quasi-experimental designs.

The Strömbom paper then goes on to describe some quasi-experimental designs as well as several approaches to evaluation research.

Health Manpower Development Problems that Call for Research

The steps that make up the logical sequence of HMD — planning, production (education and training) and management (including utilization) — are obvious, but

they are seldom applied in a systematic and integrated manner and, even more rarely, with research support, which helps to explain why so much waste and ineffectiveness trouble this field.

It is useful to review the central issues of HMD in order to more fully understand where research support is important.

The three major steps — planning, production, management — can be likened to the problem-solving sequence used in any scientific enterprise: statement of the problem (often with a setting of priorities among problem components); development of solutions (often a series of alternatives from which optimum solutions are selected); and implementation of solutions, including evaluation, the latter calling for re-examination and refinement of the preceding steps, and leading to continuous reiteration of the cycle. Such cycling is at the heart of the HMD process because the subject matter is complex and because there are so many changes in the national or local milieu in which the process is taking place.

Within this overall problem-solving process, there are well known subprocesses: health manpower planners, educators and managers each have their own cycles for dealing with the problems of their sector. More important, none of those three subprocesses can function independently of the other two:

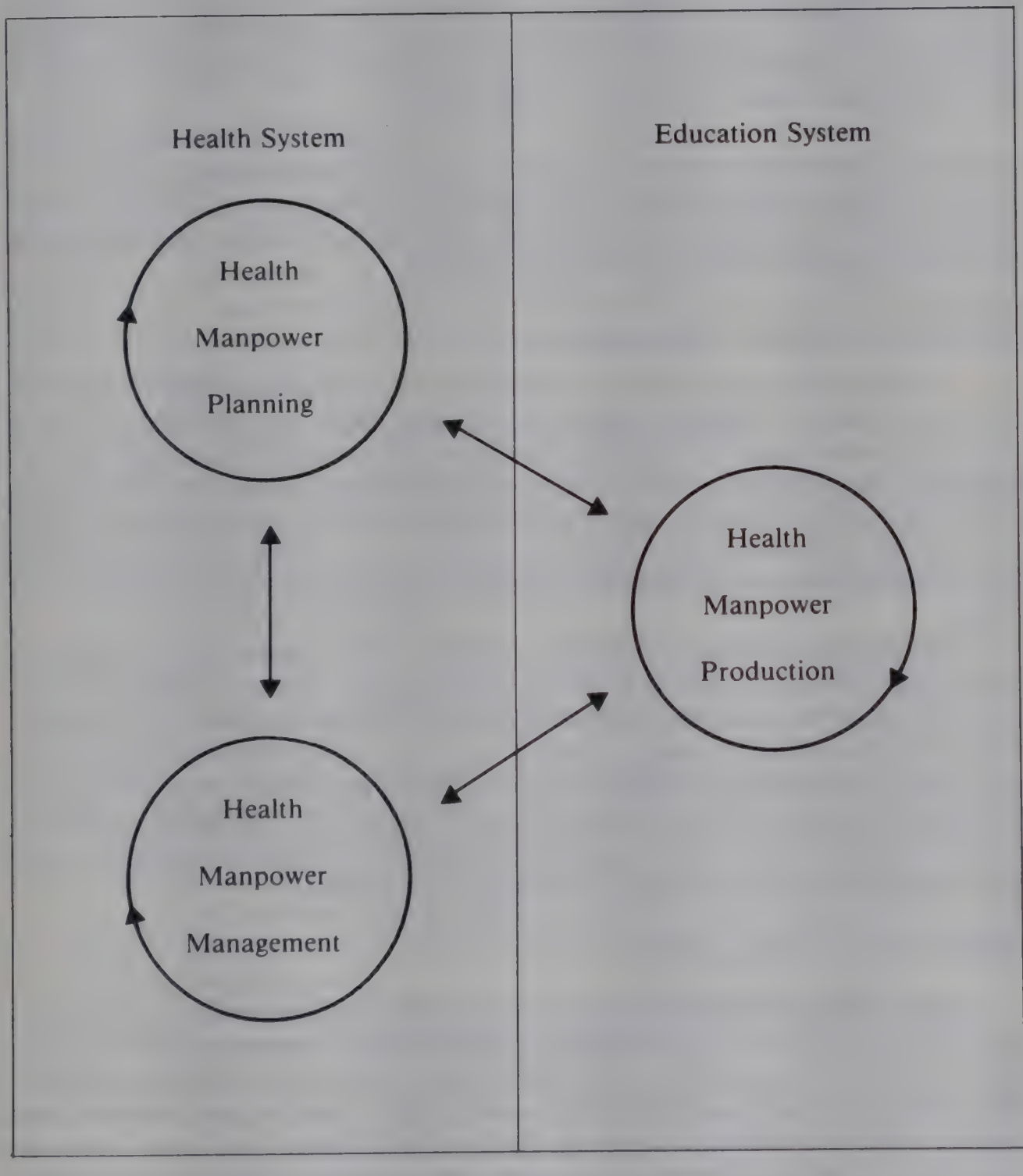
- manpower planners acting independently of the production and management steps become paper planners only;
- educators and trainers acting in ignorance of either planning requirements or field experience of their graduates have abandoned the rich logic of education for a purpose; and
- health services managers who seek to meet their manpower needs without reference to manpower planning guidelines and educational preparation have given away one of their most important management tools, including that of influencing the preparation of the manpower they seek to use.

A highly simplified diagram of these interactions is shown in Figure I. The health system and the education system are usually under different auspices, though each carries out some of the other's functions. The diagram simplifies this relationship by having the two side by side; the point is, however, the two must interact in the HMD process. As the diagram indicates, health manpower planning is generally the responsibility of the health system (usually part of health planning), health manpower production of the education system, and management of the health services again. Each has its cycle of steps, and each contributes essential information to the others.

Research is an imperative contributor to the HMD process because the components are inherently difficult to formulate, the outcomes, particularly of production and utilization, have a high degree of unpredictability, and corrections of planned activities will inevitably and frequently have to be undertaken during the subsequent cycles of evaluation and revision. The research effort should be positioned organizationally so as to have ready access to all three components of the HMD process and, within each, to both the problems to be faced and the policies to be developed. Without this strategic placement, the potential contribution of research to the effectiveness of each and to the integration of the three is lost.

Figure I.

Dynamic Interaction of Health Manpower Planning, Production and Management Processes*



*Adapted from: Health Manpower Planning: Principles, Methods, Issues. Edited by T.L. Hall and A. Meija. Geneva, World Health Organization, 1978, p. 17.

Following are some examples of the contribution research can make to the three phases of HMD.

Health Manpower Planning

—*The Forecasting Problem.* How to forecast health manpower development under changing social, demographic and economic conditions involves serious methodological problems relating to requirements for manpower, resources necessary to produce them and the capacity of health services to absorb and support them. Research can help to delineate the conditions to be taken into account as well as to experiment with various approaches to forecasting.

—*The Health Team Composition Problem.* Determining requirements, when new types of manpower are being introduced into the system, raises questions that cannot be fully answered without field testing the innovations. Such studies should involve both the production and management phases of HMD, even though the immediate questions may be asked by the planners.

Educational Programme Development

—*Understanding the Roles to be Filled.* A detailed understanding of the competencies required of health workers — attitudes, skills and knowledge — is a necessary precondition to developing education and training programmes. The introduction of a new health worker, such as the Community Health Worker, requires not only thorough understanding of that role, but also of the changes in the roles of other health workers who will relate to the CHW. A research approach to role definition should be seen as essential to the planning, production and management steps of HMD.

—*Evaluating the Product.* Given a clear view of the roles to be filled, and the development of what are hoped to be appropriate educational and training programmes, evaluating the graduates becomes the key to rational manpower development. Periodic evaluation can be valuable during the course of education and training, and summative evaluation at its conclusion, but the most important evaluative steps are taken with the programme graduates: does he or she have the competencies required for the role being filled? Such evaluation requires research support, particularly when new roles, new functions and new relationships are involved.

Health Manpower Management

—*Integrating the Health Team.* It is in the field that the products of education and training programmes come together; it is there that research can discern the extent to which the team members can mesh or fail to mesh into an effective health services effort. Research on relationships among team members and between team members and the community, and on comparative functions and work loads can point the way toward changes in manpower requirements, modifications in educational preparation and strengthening of managerial policies as well as of continuing education programmes.

—*Outcome Measures.* A critical responsibility of those who manage health services is to assess outcomes of their programmes. This requires going beyond documenting the services provided to outcome measures such as health status (a well-known limitation of "counting" services is that those services may not be effective in mitigating the health problems at which they are directed). What to measure, emerges as an important question when the objectives of health services are broadened to include strong emphasis on community participation and integration with programmes for social and economic development. To function without outcome measures is to be without critical guidance for all stages of the planning, production and management of health manpower. Research support is needed to develop and test the measures and methods for such assessments.

These examples of the contribution research can make to HMD are only illustrative, but they make an essential point again and again: while research questions may originate in one sector — planning, production or management — they will inevitably carry over into the others, contributing to how those sectors formulate their programmes or evaluate their effectiveness. This point emphasizes again the dual contribution research can make to the individual components of HMD and in their integration with one another.

Impediments to Research on Health Manpower Development

Despite the logic behind the importance of research to the development of health manpower and, in turn, of health services, little of such research is being carried out. Reasons are on all sides:

- there is a general lack of understanding of the scope, purpose, need for and methods of HMD research;
- present financing systems tend to be weighted against non-biomedical research;
- there is a lack of research institutions and research workers with adequate strength in this field;
- there is no coordinated system of responsibility for HMD research, nor are there effective arrangements for using research outcomes in forming health manpower and health services policies;
- there is limited willingness on the part of planners, educators and managers to share their problems with researchers, partly out of uncertainty as to the usefulness of the research and partly out of concern for losing their control over the problems; and
- there is a dearth of communication among the parties that could be involved — planners, educators, managers and researchers.

Some of these reasons are symptomatic of two underlying factors. First, HMD research has not established a well-known record of successful research efforts that have been useful in practical ways for health manpower and health services development. Second, those who might encourage or use HMD research — planners, educators, managers — are not accustomed to seeing their problems as researchable, and certainly not to being guided in their work by research findings.

In the plain terms of the market place, the researchers have a product with weak appeal, and the potential users have limited interest. In this milieu of uncertainty, potential sources of encouragement and of financial assistance for HMD research are not inclined to move forward into supportive positions.

Promoting and Supporting Research on Health Manpower Development

It is obvious that steps have to be taken to develop and support research in HMD. Some of these issues are covered in an unpublished WHO document[6].

In order to *promote* HMD research, it may be that Member States should set up a national body to plan and support HMD research and to disseminate research findings and promote utilization of research results by decision makers concerned.

The *planning* of research requires that a responsible organization exists in Member States to take responsibility for the following functions:

- The identification of high priority research problems;
- The review of research proposals;
- The identification of research workers;
- The assessment of support needed and of possible sources of such support;
- The strengthening of institutions capable of carrying out research, including staff development;
- The planning of collaboration with other research projects at national, intercountry, regional and global levels.

In *support* of HMD research, the following actions could be undertaken by Member States:

- In order to facilitate collaborative research, collaborative centres and task forces could be established;
- Special programmes for training research workers should be developed;
- The professional recognition and rewards for HMD research should be enhanced;
- The provision of the necessary financial support requires vigorous and concerted effort, including:
  a) the reallocation of funds in order to increase the amount available for HMD research;
  b) the procurement of additional financial support set aside in a special fund for the promotion of HMD research;
  c) an increased allocation of fellowships and research awards to those engaged in HMD research.

The *utilization* of research requires that the results be disseminated to decision makers and all health workers who should be influenced by findings of research. To that end decision makers and health workers at all levels should participate in the planning and execution of action research. Research findings should be reported in a succinct and understandable manner in order to ensure effective communication.

From these suggestions of steps that could be taken at the country level to develop and support HMD research should follow others that could be undertaken at regional and international levels.

In addition to this systematic delineation of the relationships and approaches necessary to promote and support HMD research, it is necessary to pay particular attention to the *process* whereby the idea of HMD research comes to have "good currency" in the health sector and is accepted as a natural part of the work in health services and manpower development.

One thinks of the history of epidemiology — early disinterest; later proving to be vital to health services planning and development, including the frequent emergence of political pressure on health services generated by epidemiological findings; and now, widespread acceptance of epidemiology as a keystone in health services development.

An analogous process is needed for HMD research, in which research points to instances of unintended waste, ineffectiveness and even injustices in the planning, production and use of health manpower, resulting in serious losses measured in both financial and human terms, and in which corrective steps in policies and programmes are taken. A series of such events, documented and shared in the international literature, could further the process whereby HMD research is more widely accepted and supported as an integral part of health development.

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HEALTH FOR ALL: A CHALLENGE TO HEALTH MANPOWER DEVELOPMENT RESEARCH

THE POLICY ISSUES

V. Ramalingaswami

THE BACKGROUND

Health for All

No health slogan has caught the imagination of people all over the world as the "Health for All" (HFA) slogan following the Alma-Ata Conference. Expressions of commitment of governments to the goal of HFA through the primary health care (PHC) approach are most encouraging. National, regional and global strategies and plans of action for the achievement of the goal have been compiled. Many countries have worked out health targets for achievement in a phased manner up to 2000 A.D., as India has done.

Primary Health Care

The coverage of disadvantaged and underprivileged sections of society is a major pursuit of PHC. The design for PHC is a part of the design for development; a design that will deal squarely with the present injustices and inequities; a design that is basically moral and ethical; a design that is based on compassion and equal access to health by all. It envisages a frontal cultural attack on health and development. It responds to the quivers of social awareness. It is a design in which each act by members of the health team will reveal them as full human beings. Above everything else, it is a design that will depend critically upon our ability to build bridges between various sectors of health and development. The challenge in primary health care is how to provide health care and environmental care in an acceptable social context; how to place simplified and routinized technologies in the hands of community-based health service agents who can work effectively with people; how to build a healing community, a self-reliant community, in place of a dependent and deprived community of today. These challenges must be faced and resolved if primary health care is not to become an empty dream.

Health Services Research

Health services research (HSR) is seen as a major instrument for servicing the various components of the PHC approach. The concept of HSR has been clarified through intensive discussions at regional and global levels. Its focus is on health rather than health services and on outcomes rather than on processes. It is regarded as

an effort at continuous tuning and development of health policies and practices. The development of national capabilities is given the highest priority.

The primary purpose is to improve the health of the people through improvement not only of conventional health services but also of other services that have a bearing on health. Health problems should not be viewed in a purely technological frame. They should be viewed in the ultimate analysis as human problems, and research and development must resolve them and facilitate the synthesis and translation of research results into solutions for those problems.

HEALTH MANPOWER DEVELOPMENT RESEARCH — THE PROBLEMS

Application of Knowledge

The application of scientific knowledge to health development is a crucial issue of our time and Health Services Research provides the mechanism for bringing it about. Of all the components of health services research, health manpower development (HMD) is the most difficult to grapple with and the most unruly. The track record of HMD research is not spectacular. There are not many case studies demonstrating practical results from this kind of research. And yet the successful pursuit of HMD research is essential for HSR and for the implementation of the components of the primary health care approach. To my mind, this is a moment of historical urgency. Our scientific and technological capabilities need to be harnessed to the urgent developmental task before us.

Experience across the Third World during the past two decades reveals quite clearly that major improvements in health are possible by the determined application of health technologies at costs that are affordable even by the poor nations of the world, given able leadership, well-designed and effectively operated programmes, appropriate forms and techniques of health care delivery and professional back-up support. This is the challenge before HMD research. Infant mortality rates can be reduced by 50% or more in a relatively short period of time at a cost ranging from 0.5% to 2% of the annual *per capita* income, which is quite a modest level of expenditure.

Conceptually, the activities that are listed in these programmes are all primary health care activities. Integrated health, nutrition, sanitation, education and family planning services have been used in them. They involve the development of community-based services, active community involvement, appropriate technology and back-up support of primary health care at secondary and tertiary levels of the system.

One can now leap from the first to the second generation of technology, from pilot scale studies to mass application requiring new forms of organization. In effect just as we passed through a Green Revolution, a Health Revolution can be ushered in, if we so wish. How can we diffuse these micro-level experiments to macro-level successes? The answer to my mind lies in the systematic application of the primary health care approach.

Interdisciplinary Action

The conversion of knowledge into action requires an integrated multidisciplinary effort. Interdisciplinary action is at the root of progress. Much of the knowledge we possess today is discipline-oriented. The reductionist approach of science facilitates rapid advancement of knowledge and skill. It is equally true, however, that the acquisition of health involves interdisciplinary activities within the health field and extends into socioeconomic and cultural fields. The need is for a trans-disciplinary synthesis of science and technology with society's needs and human values in a changing world. Technology requires social and behavioural sciences to make it viable, adaptable and acceptable to local circumstances. That is what HSR is all about. It harmonizes medicine as a science and technology with medicine as a social service.

The Need for Restructuring

The development of effective and safe technologies, applicable on a large scale for the control of endemic and epidemic diseases of the tropics and for population control must be accompanied by a restructuring of basic health services to reach the rural population as well as the urban poor with a system of continuing care. More of the same old approach will not do. Motivation and relevant competence at all levels of health care are essential. We thus come right into the heart of the health manpower development problem.

Health Services and Health Manpower Development

The first problem is the lack of congruence between the role of the physician, the needs of society and the lack of equilibration between medical education and health care. The medical education system and health care delivery system seem each to have gone its own way, each uncritically adopting the prevailing patterns of industrially advanced countries. As a consequence educational and training programmes frequently become irrelevant and dysfunctional in relation to local needs. No doubt there have been efforts to repair the curricula from time to time but fundamental changes have been few.

In spite of quite striking differences in the health status, health needs and resources between the developed and developing countries, it is astonishing for me to see how homogeneous and uniform are the patterns of medical education across the world. Family medicine, general practice, primary care have yet to attract able men and women in the developing world. Our ablest men and women have not been addressing themselves to the most serious problems in health care.

Medical Colleges and Regionalized Care

A universal problem in all countries is the continuing aloofness of medical education from the health care system. Attempts are being made to forge a link between medical colleges and health services and to merge medical education with medical care — at the McMaster University in Canada, the Ben Gurion University of the Negev in Israel, the Maastricht Medical School of the Limburg University in the Netherlands.

There is an attempt to merge a comprehensive health care service in a geographical area of the country with academic responsibility for education of health professionals under a single authority. An attempt is also made to provide training, experience and role models to enhance undergraduate motivation to become a highly trained service-minded doctor.

Unification of the teaching and the system of delivery of health care throughout a given region under one authority has been achieved. The concept of regionalization of health care, relating it to medical education, is gaining ground. New models of Health Department/Medical School affiliation have been developed comparable to the traditional medical school/teaching hospital association. In the University of Kentucky College of Medicine in the USA, integration of the district health centres with the Department of Preventive Medicine has been achieved. A merger of senior personnel in the Health Department and in the Department of Community Medicine has been obtained. Facilities for clinical education are provided by the community and district hospitals and the faculty is involved in a wide range of public health activities.

Deep and fundamental changes are needed in the training of physicians and other health workers to orient them to the whole family as the unit of care and relate the family to the community. It is not the question of adding a few more hours to community and family medicine, or of substracting a few hours from anatomy. The whole exercise must be intellectually challenging. It must present man and his environment as a biocultural science to an interdisciplinary holistic approach. It must encompass human evolution, population dynamics, demography and disease, fertility and health, human growth and development, human nutrition, patterns of disease and health as a function of biological psychosocial and cultural factors, patterns and rates of family formation, etc.

Attempts must be made to train physicians in the culture of their countries. The method of medicine is scientific. Its purpose is social. The scientific basis of medicine remains the same whether it is practised in Madras or Manhadam, but the circumstances of its application differ with local priorities, local social, economic and cultural settings. There is also the question of international standards in medical education.

International Standards

Newly established medical schools in developing countries tend to proclaim parity of their standards with some of the renowned medical schools in developed countries. This is what Jack Bryant calls "Cross-national Credentials". It is clear, however, that the highest standard in medical education for any country is that which is most responsive to local need. We want our medical education to be scientifically sound and develop a family and community ethos. Our centres of education cannot remain as passive spectators of a society steeped in poverty, ignorance, and disease.

Developing countries carry a double burden: the existing burden of poor health conditions consequent upon underdevelopment, the hallmarks of which are poor environmental sanitation, malnutrition and rapid population growth and the evolving

burden of new health problems consequent upon the adoption of current patterns of economic development. "It is not necessary" Lord Ashby said "for nations in, as it were, an adolescent stage of technological growth to have to recapitulate in their ontogeny, the whole drab philogeny of industrial history". It is also not necessary to achieve similar levels of economic growth as in the industrialized world to attain the same health levels that were extant at that time.

Attack on Single Diseases and PHC

The global elimination of guineaworm is an example of what could be achieved by efforts to tackle single diseases. We are familiar with Dr. Kenneth Warren's idea of dealing with diarrhoea, measles, malaria, whooping cough, neonatal tetanus, guineaworm and schistosomiasis as special targets throughout much of the Third World.

I should add, however, that the availability of magic bullets does not do away with the need to understand social, economic, cultural and behavioural aspects that so profoundly influence the health of a community. While powerful and effective chemotherapy is available for tuberculosis, other public health measures and social changes must still be an important focus of activity because they constitute major determinants of disease experience. A broad developmental effort must accompany specific interventions, otherwise it will end up as a technological mockery, with pills being prescribed against poverty.

The Health Team

The gross mismatch between the production of health manpower and the needs of services both in quantity and in quality, the need to bring about effective coordination between educational and service agencies engaged in health activities, and the concept of the health team are problems needing attention. There are, for example, several issues connected with the health team concept. Some of these are — i) the precise roles of members of the team as a whole are not sufficiently clear, ii) the job discriptions of each member are not specified, iii) the retraining of the team and particularly the team members is not properly oriented towards the community, and iv) there are drawbacks and deficiencies in other aspects of training, including field practice areas and community participation.

APPROACHES

Health manpower development research can be defined as a systematic inquiry aimed at generating information to assist decision making in the planning, production, utilization, and management of manpower required for health care at all levels — primary, secondary and tertiary.

Changes in Institutional Goals

Deep and profound changes are needed to align health manpower development policies to the goals of primary health care. The issue involves fundamental changes

in institutional goals from a predominant concern with clinical practice to a concern that includes health promotion and prevention of disease as equally important goals.

A massive attitudinal change has to be brought about all the way down the line in the health manpower pyramid. The focus has to shift from the traditional emphasis on disease diagnosis and treatment on a one-to-one basis, to one of disease prevention, health maintenance and health promotion on an individual, family and community basis. Clinical preventive services are an important modality. Familiarity with community resources and types of services that the community can provide can assist the physician in referring patients to other health providers.

If the physician is to act as a leader of the community, and if the new pattern of delivery of health care depending upon the team concept and the use of agents of health care deeply rooted in the community, the entire process of medical education must undergo a radical change both in its institutional goals, in the structuring of the curriculum, in the educational settings, learning situations, teaching methods and the evaluation techniques. Doctors and auxiliaries need to be trained to the extent it is possible in common settings, so that they may function in a complementary fashion as a health team. Recruited among the villagers, trained in or near the village, employed on a part-time basis, the system of employing the community health workers can only succeed if the serious problems associated with their deployment are studied and resolved. The effective use of these village level workers will require extreme decentralization and massive use of these workers, with a carefully worked out hierarchy of training responsibilities.

Conditions for Change

Any institution that sets upon a course of change will have to address itself to the following factors: the administrative structure of the institution, the policies of the institution, willingness to change, whether the institution is a single social system or whether there are several subsystems functioning independently, for example government, university, etc.

Research in HMD should be oriented towards improving health care for the entire population, especially the high risk and deprived groups. It should be directed towards the study of all personnel who may contribute to the health care system, health professionals, non-professional health workers, health administrators, community groups and consumers of health care. It may include manpower planning to meet health care needs, manpower mix and distribution, competence needed for various levels of health care personnel, planning, organization, implementation and evaluation of basic and continuing educational programmes, the concept of the health team and manpower management in terms of incentives, career schemes, etc.

Priority Areas for HMD Research

Amongst the areas for priority research the following could be identified: i) the functions of different types of health personnel so that appropriate educational programmes may be developed, ii) effective collaboration and coordination between

trainers of health care personnel, utilization of trainers and agencies responsible for community development, iii) cost-benefit analysis of health manpower planning and production, iv) factors conducive to development of effective health teams, v) strategies to bring about needed changes in educational institutions and programmes, vi) identification of criteria for selection of students to follow educational programmes, and vii) development of appropriate learning materials.

Organizational framework for HMD Research

A framework for systematic and continuing study of health manpower development as a component of health services research, which in turn is the mechanism for operationalization of the primary health care approach needs to be established.

HEALTH FOR ALL — A CHALLENGE TO RESEARCH IN HEALTH MANPOWER DEVELOPMENT

ECONOMIC ASPECTS OF HEALTH MANPOWER DEVELOPMENT

Adrian Griffiths*

INTRODUCTION: THE LABOUR INTENSITY OF HEALTH SERVICES

In the jargon of economics everything we produce involves some combination of land, labour, and capital. Economic sectors in which one or other of these factors of production is dominant, are said to be "intensive" in that input. In this context, health services are clearly labour intensive, for 40-70% of their expenditures are generally spent on manpower. If we look a little more closely we find that the health services are, in several respects, even more labour intensive than the expenditure figures suggest:

1. *Variety:* Health services use not only a large number, but a large variety of staff from many disciplines and of all levels of training.
2. *Long lead times:* Training programmes and facilities usually require considerable time, investment, and technical preparation to set them up.
3. *Service-training integration:* Much of the training of health service manpower is practical, and takes place in functioning health services, into whose operations the training requirements have to be integrated.
4. *Teamwork:* Most categories of health service manpower will function in a more or less close team relationship to other manpower categories, and need to be trained to do so effectively.
5. *Cost and length of training:* The training for many categories of health manpower requires a relatively high educational level at entry, and is long and expensive.
6. *Specificity to health:* Many health manpower categories, notably the most highly trained professional staff, are specific to the health sector, and their competences are of limited applicability in other sectors.
7. *Professional organization:* The dominant health manpower categories are formed into professions with legal monopolies (often self-defined) in their areas of competence, and considerable social, economic, and political prestige to defend their status.
8. *Long working life:* These same dominant manpower categories, essentially medical and paramedical staff, have a long professional life.

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*Unable to attend.

9. *Limited applicability of market mechanisms:* A substantial proportion of all health manpower is employed in services which are organized on a non-profit basis, and provided at little or no cost to the patient at the time of use.

HEALTH MANPOWER DEVELOPMENT METHODS: A CRITICAL REVIEW

Given the overwhelming labour intensity of the health sector, one might expect that there would be highly developed procedures for making the basic economic decisions to ensure that health manpower inputs are efficiently planned, produced and used. Paradoxically, adequate procedures are conspicuous by their absence, and the situation of health manpower research is even less satisfactory. The explanation lies, to a large extent, in some of the labour intensive characteristics of the health sector mentioned above. The most powerful obstacles are the dominance of the sector by prestigious, well-entrenched, monopolistic professions with long expensive training, and a long working life, in a sector where market pressures to efficiency are either absent or strongly diluted.

Health manpower development may be subdivided into seven basic procedures, of which the first three and the last are generally integrated into overall health service planning and management:

1. Analysis and projection of population needs and demands for health services.
2. Decisions on priorities objectives and policies to meet these needs.
3. Selection and elaboration of health service strategies in accordance with the above decisions.
4. Estimation of the categories and numbers of health manpower needed to execute the above strategies, including future projections.
5. Analysis of the imbalances between expected requirements and the expected supply of each category of manpower.
6. Formulation and implementation of policies and programmes to produce the necessary manpower.
7. Monitoring and evaluation of the technical and economic efficiency of manpower use by the health services, and of their effectiveness in achieving the stated health objectives.

If we examine the six most common health manpower methods, we find that none of them performs all these procedures well, indeed some hardly perform them at all.

Personnel Norms

The most commonly used basis for HMD is personnel norms. They are usually expressed directly in terms of personnel: population ratios, but are sometimes expressed indirectly as ratios of personnel to other health resources which themselves have a population based norm, (e.g. n nurses per acute hospital bed, and b beds per 1000 population). This approach has both advantages and disadvantages. The advantages cited most frequently for norms are that they:

— are simple to understand and easy to use;
— can be set by highly skilled senior staff not available at lower and more peripheral levels of the health services;
— are specific and quantified, not general and descriptive;
— provide a basis for comparison and evaluation;
— appear to be based more on objective technical considerations than on subjective sociopolitical ones, and therefore are often less subject to criticism and objections;
— may be used as a proxy measure for staff needs (norm — actual = need); and
— implicitly guarantee that services which meet the norms laid down fulfil the required standards of quality.

However, an even longer list of criticisms is levelled against norms. It is contended that they:

— disguise value judgments as technically or biologically determined requirements;
— conceal implicit non-health values;
— assume input-output relationships which are inadequately proven or not proven at all, both in terms of technical and economic productivity and in terms of effectiveness;
— provide no basis for adjusting to scarcity;
— provide no basis for deciding priorities;
— tend to be set by key staff groups who protect their own interests;
— do not allow for different circumstances which may affect staff requirements;
— limit or prevent substitution between manpower categories; and
— encourage conservation and insensitivity to change.

The major limitations of this method are that: the establishment of norms requires careful preparatory work to arrive at appropriate staff definitions, based on a full understanding of their functions and interrelations; and they must be reviewed regularly to allow for technological, epidemiological and socioeconomic changes. Unfortunately, those circumstances of limited planning capacity and data which make this method attractive, are also those in which these requirements are unlikely to be met. In addition, actual and future population estimates, used in the denominator, are often subject to wide margins of error especially in developing countries. Indeed, even accurate demographic data by no means reflect changing morbidity and mortality patterns, and even less health service need and utilization trends, especially in situations of rapid socioeconomic change.

Service Target Setting

This approach starts from social, political and professional decisions on objectives and priorities. These are expressed as service targets to be achieved by particular services and programmes within a given time period, for example, target levels of pro-

vision such as beds or staff per 1000 population, or coverage targets such as a given percentage of coverage by immunization, etc.

This approach is useful for HMD in special programmes, where priorities are clear, problems are urgent, and planning and management capacity too limited for more sophisticated approaches. However, it has two major deficiencies: first, the criteria for target setting vary considerably in their sophistication and level of objective support. Often they depend on relative definitions of need, between different regions within a country, or between one country and another. The reliability and appropriateness of these comparisons are critically important to the validity of the resulting estimates of manpower needs. Second, this approach does not evaluate the appropriateness of the health service targets used in the comparisons. It assumes that a standard reached elsewhere is satisfactory in terms of manpower efficiency and effectiveness.

Health Service Supply and Demand

This approach is based on the fundamental economic concepts of supply — of personnel, and demand — for their services.

The analysis of manpower supply covers:

1. *existing supply and use:* including types, numbers, mix, organization, distribution, functional specifications, mobility, turnover, rate of change, pay and conditions of work, job opportunities and career prospects, licensure, productivity, etc.

2. *factors related to recruiting and training:* including selection criteria, training capacity, educational requirements, attrition rates, job and career prospects, financial support, licensure, etc.

The analysis of demand covers:

1. *sociodemographic data:* including statistics on the present and projected age, sex, geographical distribution and socioeconomic characteristics of the population, etc.

2. *epidemiological and utilization data:* on actual and projected utilization rates by type of service and morbidity, plus data on unmet demand, and on factors influencing the level and types of demand made.

The analyses of demand vary considerably in their methods and complexity. Some analyses confine themselves to relatively simple measurements of utilization rates for different services by age and sex, area of residence etc., and then apply these to projections of future population. Others use trend analyses to estimate future expenditure and utilization rates. At the other extreme, more complex analyses have attempted to use models relating demand to various morbidity, demographic, and socioeconomic characteristics of the population.

Whatever methods are used, the expected demand can then be compared to the expected supply of services, to find the nature and size of imbalances. The manpower requirements of the projected services can then be calculated using whatever staffing standards are considered appropriate.

The two most important criticisms of this approach are: first, that demand is not synonymous with need — many demands are groundless, excessive, or misdirected, and many needs remain undetected or, for various reasons, are not translated into a demand. Secondly, the standards used to convert estimated future services into manpower requirements usually suffer from the same deficiencies as mentioned above for norms, and the further into the future the projections extend, the more likely it is that there will be changes in the functions and productivity of health workers, advances in technology, and growth in the organization of the health system.

Health Service Needs

This approach goes beyond demand, and attempts to measure health needs, to project them into the future, and then to convert the projections into manpower requirements through specified staffing and productivity levels. This method requires extensive and detailed information on the incidence and prevalence of morbidity by type, on mortality, and on the use of health services. Standards for the care of each type of morbidity must be elaborated and then applied to the morbidity and use data, to determine where provisions and use of health services and of related manpower are excessive, inadequate, or inappropriate.

Such an approach is comprehensive, and specific, but very demanding. The data requirements alone are very heavy, and can virtually never be satisfied by routine information systems only, particulary concerning population based morbidity. This means either making extrapolations from utilization and mortality data, or mounting special surveys. In addition, complex and difficult social and technical decisions are needed: to define need, to agree what needs can and will be met, and to specify the technical manpower standards of the services to be provided. Evidently, such elaborate procedures require a highly developed organizational structure, expert planning and management staff, and a considerable measure of central control over the health services.

Functional Analysis

Functional analysis covers only part of HMD. Basically, it analyses the relationship between the tasks and technical requirements of job performance, and the skills and qualifications of the staff doing them, with the aim of obtaining an optimal match between them. The basic steps in this approach are:

1. Identification and specification of the services to be provided. (Normally this information should be provided by the overall health service planning process.)
2. Break-downs of the services into their component tasks.
3. Estimation of the frequency of these tasks.
4. Analysis of the knowledge and skills needed to perform these tasks adequately.
5. Comparison with the knowledge and skills of the personnel available.
6. Matching of suitably qualified staff to the tasks. This is normally done on the basis of existing staff categories, but may also lead to the definition of new categories of staff with new combinations of knowledge and skills.

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Such an analysis presupposes (or establishes) well-defined work routines. It demands competence both in work study techniques — to obtain data, and in task and skill analysis — to interpret it. The data required is quite detailed and usually involves some form of continuous or periodic work recording, either by observers or by self-recording done by the staff being studied.

This method is still relatively new to the health services, where it has so far been confined to specific well-defined services. It has not yet been used for more extensive analyses of the overall division of labour in major services, nor has there been much evaluation of the techniques used and the results obtained. Nevertheless it is clear that the general approach has considerable potential for further development and application, and there is every incentive to do so, given the escalation in health care costs and the importance of staff costs within them. Taken to its logical conclusion this approach would also examine whether particular tasks were necessary at all, or whether they needed to be done so often, or for the same indications as in the past.

Model Building

The model building approach to HMD aims to produce a low cost, readily modifiable representation of the essential factors relevant to the problems being analysed. The basis of some of the models already developed is quite varied, ranging from sophisticated projections of morbidity, demand, or use, modulated by various intervening factors, to stochastic and Markovian processes, and econometric analyses. Some models have relied on routine data, others have added to this with specially collected data to meet specific requirements, and yet others have used estimates or even imaginary data, particularly when the aim has been to clarify relationships and do sensitivity analyses to determine the most important parameters for accurate measurement.

Clearly models cover only part of the problem, but it is a very important part, for they enable the quantitative implications of different policies to be clarified relatively quickly and cheaply, and provide a unifying framework within which data from the various other approaches can be integrated.

PRACTICAL CONSIDERATIONS

Choice of Methods

It is clear from the above review that the available methods of HMD are imperfect or impractical, or both. The practical choice at present is simply to adopt the method which appears to be best adapted to the problem and the resources available. However, in the longer term it is clearly advisable to build progressively towards a proper HMD framework within which the deficiencies of the various methods can be reduced if not eliminated. For example, well-developed need analyses and functional analyses incorporating explicit procedures to allow for local variations would help to

develop flexible norms for use in countries unable to use more sophisticated methods. Complex need based methods could be refined and made more manageable through the use of modelling to identify key parameters, and functional analysis to update standards.

Concentration of Effort

Ideally all manpower categories should be included in HMD efforts. However, in practice, time and resource limits require effort to be concentrated on the most important categories. Five practical criteria for evaluating the importance of a given manpower category in HMD are given below.

1. The extent to which training is done, controlled, or influenced by the health sector.
2. The extent to which the training is specific to work in the health sector.
3. The length, level, and cost of training.
4. The effect of a shortage (or surplus) of supply on health service functioning (and ultimately on population health).
5. The number of personnel needed in absolute terms and relative to existing numbers.

Recognition of Constraints

Many HMD programmes concentrate great efforts on technical factors at the expense of fundamental practical constraints. The frequently encountered examples are given below.

1. *Budgetary limits:* Many countries have calculated their manpower needs, for example for doctors, and invested in training programmes to produce them without first ensuring that they can afford to employ them. The results have been wastage of costly training and often the complete loss of the investment through migration abroad.
2. *Educational constraints:* All categories of staff who need anything more than the minimal training also need a minimum level of education at entry. The more sophisticated the training, the higher the prerequisite level of basic education, and it is often specific to particular disciplines, usually the sciences. This pool of potential recruits cannot be created overnight and the HMD effort may need to extend back into earlier levels of education.
3. *Training capacity:* Staff, buildings, materials, and course design may all be constraints, and there must be available capacity through all phases of training. In recent years, even sophisticated developed countries have failed to allow for this, with the result that medical students completing preclinical training have faced serious shortages of clinical training places.
4. *Opportunity costs:* When HMD programmes are fragmented, opportunity costs are often overlooked. A budget allocated to training doctors may seem reasonable in itself, but takes on quite a different significance when expressed in terms of opportunity costs, which might be, as occurred in one African country, the closure of one of the major nursing schools. Similarly, if the com-

parison is extended to other sectors, particularly in developing countries, where the numbers reaching tertiary education may be severely limited, it may be more important to produce agronomists or engineers than doctors, so HMD must also be aware of the general planning context.

5. *Nature of the market:* Many qualifications, particularly in the medical, nursing, and scientific fields have private markets and indeed international markets. This means that if employment, career, and pay prospects in the health sector, or in particular parts of it, are considered inadequate, staff will be lost for example, to the private sector, or even more completely, by migration to another country, so that the planned supply of manpower will not be available in practice.
6. *Staff expectations:* Health manpower planners are remarkably persistent not only in ignoring staff expectations, but in creating expectations which are incompatible with their plans. All over the world doctors are predominantly trained in teaching hospitals. These, by their very nature are large, highly equipped and staffed, specialized, and located in major population centres. Yet the avowed purpose of expanding such training is often to produce doctors to deliver primary care in rural areas that have neither the technical nor the social amenities which they have learnt to expect.
7. *Public expectations:* Plans based on impeccable technical and economic analyses, but which ignore public expectations, run serious risks of failure. For instance, some developing countries have selected their trainee midwives from among the young girls with the necessary basic education, disregarding the fact that in their culture only married older women are regarded as having the necessary experience and knowledge of pregnancy and childbirth to be able to give advice and care.
8. *Professional control:* Health services are dominated by the medical, "paramedical" and nursing professions. By definition these professions play a determinant role in deciding who is allowed to do what, criteria of admission to the profession, content of training, and standards of performance. They are given such powers on the understanding that they exercise them for the benefit of society but, as with any monopoly powers, they also benefit the professions themselves. Changes in roles and responsibilities must either allow for this framework, seek to modify it by persuasion, or attack it frontally. 'Nurse practitioners' and 'physician extenders' were accepted in the USA because they were introduced explicitly as extenders of the physician's own activities and under his control technically and economically. Medical auxiliaries in developing countries were accepted as having effective independence, largely because they worked in rural areas and offered little or no competition to fully trained doctors. Dentists in some states of the USA lost their monopoly of fitting dental prostheses because they lost public support through extravagant pricing. These examples illustrate all three options.
10. *Organization of work:* Different types of health service structures with different organization of work certainly affect the efficiency and effectiveness of health workers, but there is little systematic data available on this issue.

However, it is clearly important for health manpower planners to consider different options, and to insure that proper training is provided to enable staff to work effectively together. It should not be assumed, because staff are well prepared to do their own specialized job properly, that they will also be able to function appropriately in a team, and even less that they will be able to manage a team or a service.

FURTHER MOMENTUM

Many suggestions and conclusions have already been made above. Only two further conclusions will be made here. The incentive for efficiency in other service sectors is largely provided by the market mechanism, where inefficient methods of production and distribution are ultimately visible to the client in the form of high price and inferior quality, and unless the producer mends his ways he loses sales and profit and may go out of business. To a very large extent this does not apply in the health services. However, considerable further momentum could be given to HMD in the health sector by making its performance more transparent to decision makers and to the public. This could be done by improving the basic information system to give (a) reasonably accurate information on the cost breakdown of different services per unit of output, (b) indicators of productivity, and (c) rough indicators of effectiveness. Otherwise the old maxim will continue to apply 'out of sight out of mind', and HMD will continue to be a backwater of good intentions and slow progress.

THE RESEARCH REQUIRED FOR HEALTH MANPOWER DEVELOPMENT

GENERAL PERSPECTIVES
(The Invisible Hand in Brazilian Health Services: Can it Heal?)

Cláudio Moura Castro*

INTRODUCTION

Regardless of the form of delivery, health services have to be paid for. Indeed, doctors and nurses have to be remunerated. The market configuration and the price structure prevailing will have consequences upon the delivery system. In other words, a market place is created, distributing income, generating incentives and, eventually, distorting the intention of planners or administrators.

There is an all pervasive Invisible Hand. It may heal or, to paraphrase Joan Robinson, it may strangle.

Therefore, the planning of health services requires, *inter alia,* the lucid utilization of micro-economic analysis. The market is not a *deus ex machina,* generating deterministic and uncontrollable outcomes. Yet, it cannot be taken for granted or treated with naivety. This paper discusses four examples of market functioning in the health sector:

(i) Market forces may prevail over the intentions of administrators, generating patterns of service and income levels that greatly differ from the original blueprints. For instance, university-trained nurses do not treat patients directly, as planned. Instead, they work as ward administrators. Thus, patients are cared for by less-educated personnel. Supply and demand conditions are incompatible with the deployment of people with such high levels of schooling in relatively simple tasks.

(ii) Rigidities, guilds and cartelization may restrict the free play of market forces. As a result, price adjustments may be replaced by novel means of conveying health services. Extremely fast growth in the supply of doctors was expected to reduce the mean value of medical appointments. The medical associations, however, set minimal levels for consultations. The accomodation of the additional supply of doctors was solved by the creation of organizations that hire doctors on a contract basis (e.g. by month) and sell their services on an actuarial basis or through arrangements made directly with voluntary employer associations. The salaries normally paid to doctors, if translated into consultation fees, yield prices significantly lower than the medical association

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* The views and opinions of the author do not necessarily reflect official positions of the CENTRO NACIONAL DE RECURSOS HUMANOS / INSTITUTO DE RESQUISA ECONOMICA E SOCIAL / PLANNING SECRETARIAT.

minimum. In other words, the attempt to control "retail" prices leads to the creation of schemes to buy "wholesale" in a less controlled market and transfer part of the price differences to consumers.

(iii) Fees paid to the doctors hired by the Federal Social Security System are considered by them as being too low, in comparison with perceived alternatives. To compensate, doctors readjust their hourly rates by working less time than legally prescribed. Their minimum quotas of appointment are kept but the duration of each consultation is reduced. In those cases in which payment is a fixed fee per consultation, some compensation is obtained by postponing part of the procedures to a subsequent appointment.

(iv) Naive attempts to predict market behaviour may fail. Irrationality? Different welfare functions? Or, perhaps, just poor predictions? Medical schools were traditionally located in the larger cities. Continued concentration of training facilites was tolerated under the assumption that imbalances in the regional distribution of doctors would create the income differentials required to stimulate their emigration to less populated areas. This has not happened in Brazil. Maybe the large city attractions are worth the income foregone by not moving to areas where doctors are scarcer. Maybe the income differentials are not significant due to the greater affluence of the large centres and to a supply-induced expansion in the demand for physicians.

MARKET LOGIC AND PLANNED LOGIC: WHICH DECIDES WHO IS A NURSE?

This section explores a case in which educators created solutions which run counter to market logic. Relative scarcities turned out to be more important than technical requirements in determining just how nursing care is to be delivered.

Medical doctors in Brazil follow a six year post-secondary course of studies. This is much in line with the European tradition where medical education is at the undergraduate level.

By contrast, nursing which is a profession of more recent development, had its profile shaped at a time when North American influence on Brazilian education was much stronger, namely during the post-war period. The decision to train nurses for four years at the university may have been influenced by the North American tradition of postponing the vocational or professional content of schooling. In fact, many professions offered elsewhere at the secondary level (or not formalized at all) are offered in the United States of America as university training. It is worth noting that more than an idiosyncrasy, this pattern merely reflects the relative abundance of people enrolled at university level programmes.

As a result, Brazilian doctors and nurses are prepared at the same schooling level. Doctors only take a little longer to finish. Hence, both are recruited from the same subset of people who finish high school and are able to pass the University entrance examination. For the country as a whole, this means a relatively small number

of people. Consider that, today, of the 100 who ever go to school, 10 will finish high school and 6 will enter a university-level programme. Recruiting from such a small subset of the population means that the supply function is made up of people with previous qualifications that are in short supply. Hence, their income expectations are high.

In terms of schooling costs, the difference is immaterial. In fact, many nursing schools being small or underutilized, have higher costs per student/year than medical schools.

When health planners prescribe the deployment of medical personnel, they merely describe the conventional roles of nurses and doctors. University-trained nurses are supposed to take care of patients and the nursing curriculum reflects the perceived technical requirements for optimal delivery of such services. This is the usual exercise performed by people involved in occupational analysis and educational planning.

But also trivial is the *ex post facto* observation that such exercises are worth very little when they run counter to supply and demand conditions. As a matter of fact, educational requirements — not only for the health professions — depend more on the current supply of schooling than on truly technical requirements.

It is conventionally said in Brazil that for every doctor, five "nurses" are required. This has been a dogma frequently repeated. It is easy to demonstrate the vulnerability of such a careless statement if literally interpreted.

If there is some proportionality between educational effort and rewards, i.e. between costs and benefits, one should expect similar educational levels to generate income profiles that are not too different. In other words, one should expect nurses' and physicians' salaries not to differ too much, despite the fact that the bulk of the nursing services is immensely simpler and intellectually less demanding than the doctors' work.

Quite clearly, university-trained nurses would not be willing to work for much less than the average university graduate. For low prestige careers — which still earn significantly more than high school graduates — they would simply take other jobs or choose other careers. And those in charge of health management would not pay similar salaries for the intrinsically simpler tasks predominantly performed by nurses.

Looking at the numbers involved leads to equally obvious findings. Brazil has 100 000 medical doctors. Hence it would need 500 000 nurses. In an equilibrium situation, five times more nurses than medical students would add 128 000 students to a university enrolment of 1 500 000. But to catch up, say, in ten years, this population would have to be 150 000 larger, adding up to 278 000 nursing students. This would require expanding the nursing schools by a factor of 17. These scenarios are clearly unfeasible. In addition, there is no political will to bear the cost of such a *tour de force.*

However, as we examine the current situation we find that the market has redefined the job descriptions as well as the occupational roles of nurses. The market for university-level nurses is indeed stable, except that they do not work as nurses but rather as ward administrators. Essentially they supervise the nursing services performed by other personnel and earn income levels compatible with the responsibility and difficulty of management positions.

Patient care is performed by nursing aids and other people, sometimes with perfunctory on-the-job training. The wage levels corresponding to these functions are very modest, several times smaller than those of doctors or university-trained "nurses".

When we look at the numbers, for instance in the State of Rio de Janeiro (which has the record of one doctor per 650 inhabitants), we find 18 000 doctors, 4 400 university-trained nurses and 27 000 "other" nursing personnel. Clearly, nursing services are performed by the "other" category. Adding this "other" group to the university-trained nurses and comparing to the number of medical doctors we obtain a ratio of 1.7:1. In fact, PAHO[a] prescribes a ratio of 2.4:1 which it hoped to attain in Latin America by 1980. The solution makes more sense than the 5 to 1 ratio prescribed by common consent.

Notwithstanding the inept attempts of health planners to respond to nursing demands with unrealistically high schooling requirements, the market for university-trained nurses is stable with one nurse for every 5 medical doctors. This probably corresponds to the demand for ward administrators, surgery room nurses and other sophisticated specialities.

Yet, from the point of view of optimizing health delivery systems, this view involves two errors. First, insufficient attention has been devoted to the preparation of those people who are going to be the real nurses. At a modest cost, a much higher level of proficiency could be obtained for the enormous army of secondary and elementary level personnel really in charge of the nursing chores. At present, their training is deplorable. Barely literate housemaids are often put in positions of considerable responsibility without any training — this may partly explain the very high levels of iatrogenic diseases.

Secondly, doctors end up performing simple tasks such as record-keeping and taking temperatures which could be delegated to other people, releasing time for more careful examination or attending more patients. This results from the fact that the competency gap between the doctors and the attendants in charge is too wide, since too little attention has been devoted to preparing intermediate personnel. However the carrying out of these tasks is functional to keep "demand" for doctors at higher levels than would be the case since there is an excess supply in large cities; this helps keep their income levels relatively high.

The lesson is quite clear: market forces may prevail over the naive intentions of planners. The ultimate results are not necessarily the best that would be warranted by the given resources.

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[a] Ten Year Health Plan for the Americas. Report of the Special Meeting of Ministers of Health of the Americas, Santiago, 1972. Pan American Health Organization, Washington, 1973 (Official Document No. 118).

WHAT HAPPENS WHEN THERE ARE TOO MANY DOCTORS AND THE PRICE OF CONSULTATIONS IS NOT PERMITTED TO DROP?

About two decades ago there were 2200 inhabitants for every doctor in Brazil. Mortality and morbidity statistics were dismal. It was assumed that more doctors would mean more health care and, supposedly, the competition among them would reduce the quasi-rents, derived from their monopoly power over health services.

The expansion in medical education has been impressive, the number of graduates jumping from 1500 in 1960 to 8000 in 1980 and the inhabitant/doctor ratio falling to 1200:1. In the State of Rio de Janeiro, yearly graduations rose from 350 to 1360 between 1960 and 1980.

These are very significant numbers, reflecting an enormous financial effort. With a relatively more abundant supply of doctors one would expect the "over-the-counter" price of medical services to drop considerably. However, this did not happen — except in very restricted circumstances. As it turns out, medical associations have been very active in the cartelization of private practice, effectively preventing the price of consultations to drop. In fact, choosing Rio de Janeiro as an extreme example of a place where this drop should have taken place, we may observe that consultations have remained expensive. The minimum price set up by the medical association is currently US $ 16 per consultation.

On the other hand, one of the most powerful factors preventing a reduction in consultation prices has to do with the medical code of ethics which explicitly condemns price competition[b]. In addition, the commonly-accepted notion that quality of medical attention is measured by the price of consultation may also prevent their reduction. Smaller fees may fail to attract an additional number of patients sufficient to generate higher revenues.

It is in fact perplexing that such fees do not fall. Peer pressure, union manipulation and consumer ignorance probably contribute to this price inelasticity. But the fact remains that this is a free entry market for all those with a MD degree.

Prima facie evidence suggests that such price rigidities may have contributed to the stagnation and even the shrinkage of the private practice in medicine. In the early 1980s in the city of Rio, only 2.4% of doctors in private practice were less than 30 years old, while 33% were 50 or more years old.

What happens to this growing number of young doctors who face inelastic consultation prices and a quantity of consultations that grows much slower than their own numbers? They sell their services in other unregulated markets. Obviously, the social security system is expanding very fast, absorbing today in its own hospitals and medical centres 25 400 doctors in Brazil, 8700 of whom are in Rio. But this is only part of the story. Standard social medicine contracts — 20 hours per week — leave much free time and a significant deficit in the doctors' personal budget since monthly pay for these contracts averages about US $ 450.

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[b] Conselho Federal de Medicina. Código de Ética Médica. Diário Oficial da República, January 1965.

In addition, only the poor have to comply with the hardships of getting medical attention (waiting in queues etc.) under the social security system and accept the casual or downright inadequate quality of the services.

That leaves ample available time for doctors and ample demand for medical attention. Yet not at the regulated prices. Notice that services are regulated at "retail", leaving the "wholesale" market free of binding restrictions. As a result, one can observe a clear tendency towards the creation of schemes that permit "retail customers" to purchase at "wholesale" prices. Ultimately, these involve hiring doctors on a monthly basis rather than by consultation. These solutions require an intermediate organization to hire doctors and distribute their services.

Several schemes are in existence. Firms may hire doctors and offer their services free-of-charge or at nominal fees to their employees. Health delivery firms contract with large corporations to serve their employees. Actuarial plans sponsored by health service corporations permit the participants to utilize medical services as needed and settle the accounts with doctors at "discount prices".

Schemes such as these and their numerous possible permutations seem to be growing very fast. They seem to cater to an expanding middle class which either cannot afford private practice or wants to get more value for its money. (Group medicine today employs 30 000 people, including 12 000 doctors, catering to 11 million people).

It may be worthwhile to describe one of the more common varieties. Large corporations offer their employees fringe benefits on health care. One common scheme is to hire doctors and offer consultations free-of-charge to the employees. What matters for our argument is that the consultation cost to the firm is much less than the employee would have to pay if he resorted to private practice. In other words, the fringe benefits are worth much more to the employee than the firm pays for them.

An alternative which becomes increasingly common is the "package deal" between corporations and participant doctors. The firm — as wholesale buyer of medical services — bids for a "discount" price for its employees. Depending on the price offered they may attract a different segment of the market. With 10% to 30% below going prices, even some of the best-known doctors join. To them it means attracting a significant number of new clients — an application of the old "cheaper-by-the-dozen" logic. Alternatively, the firms may set much lower prices, aiming at younger doctors, who do not have a wide clientele. In those cases, a clinic or a hospital may contract with the sponsoring corporation.

Costs for such schemes are shared by the corporation and their employees. Usually, employers agree to bear the cost of a certain proportion (say, 50%) of their lowest "discount price". Employees who choose more expensive alternatives have to pay a larger share of the consultation price. Again, the subsidy or the fringe benefit is beside the point. The isssue is the reduction in the pay that goes to the doctors.

A variant of the above schemes are the health service firms that cater to corporations. This may be the most transparent example of what we are trying to describe in this section. These health organizations hire doctors for a monthly salary, and sell consultations to corporations at discount prices. They usually make a handsome profit but are still able to offer consultation prices that are much lower than "retail".

Medical plans on an actuarial basis are also becoming common. Some hospitals will sell health insurance on a monthly payment. The actuarial calculations to find the going value of consultations cannot be performed by the author but it seems reasonable to believe that it could be below market prices.

What can we learn from examining such cases? First of all, the cartelization is only partly successful. If the price of private consultations cannot fall, some participants will find other formats for contracting medical services. These tend to converge to lower equilibrium prices that permit a larger volume of services to be transacted.

To the doctors and clients, this is a second best solution. These schemes permit the market to be cleared, bypassing a "retail" price rigidity. However, they introduce a class of "brokers" in the market who earn a profit and charge fees for their work. This consumer's surplus could have been appropriated by clients and doctors. In addition, it bureaucratizes medical services in hospitals, medical organizations and sponsoring corporations. Red tape and the wages of bureaucrats are added to the system.

Who benefits? Mainly the more experienced doctors with a private practice who can protect themselves from the price competition of the newer crop of doctors joining the market. At lower fees, some clients would accept less experienced doctors but if the fees are the same, why settle for less than experience and repute?

In fact, pressure is mounting now to freeze or even reduce enrolment in medical schools. "Saturation" of the market and the poor quality of medical education are the explicit justifications.

WHAT HAPPENS WHEN THE LARGEST EMPLOYER OF DOCTORS PAYS TOO LITTLE?

The Brazilian social security system hires on a salary basis 25% of the 100 000 Brazilian doctors; another 16% (16 000 doctors) are hired on fee-for-services basis. This system is, of course, the largest employer of physicians and other medical personnel. Given the large expansion of medical schools and the cartelization of medical practice, social security is an oligopsonistic operation in a buyer's market, hence it sets prices that are very low, compared to the conventional and traditional prices of private practice or even the more middle-class oriented medical organizations. Yet, given the market structure prevailing, they have no problems in finding candidates for their positions. In fact, the number of candidates for their 1976 examination amounted to 77% of all Brazilian medical doctors.

Yet many doctors are unhappy with their pay rates. They find them at variance with their idea of a fair price for their services.

Such subjective perceptions would be of no consequence if health unit management were not made up of medical doctors who sympathize with their colleagues. The solution to increase wage rates is to reduce the total number of hours worked. According to the established rules, doctors have a minimum quota of patients to be seen. A fairly common practice is to examine these patients in fewer hours than those con-

tracted and leave earlier. It is beyond the scope of this paper to try to quantify the frequency of such reductions in work load.

The social security system also purchases services from private hospitals and clinics. The usual format is to charge a standard fee per consultation. This fee is rated today as 13% of the minimum fee imposed by the medical associations for private consultation.

Again, this fee is perceived as too low by doctors, even though supply and demand conditions indicate that they are not below equilibrium levels. The way to bypass this rate is to procrastinate and thereby multiply the number of consultations. For instance, laboratory examinations are requested in order to postpone diagnosis, procedures that could be performed in one single consultation are transferred to the next, and so forth. To sum up, this section described a case in which institutions which hire doctors redefine equilibrium prices against market tendencies and against their own interest. The explanation seems to result from notions about what fair price for consultations should be on the part of an administration made up of people who are also doctors.

WHY DON'T DOCTORS EMIGRATE FROM A SATURATED MARKET?

Textbook economics assume that producers are profit maximizers. Market disequilibria among regions are expected to stimulate emigration flows from places in which the glut of producers drives the prices down. Conversely, in sites in which supply is scarcer, prices move up, attracting additional suppliers.

As mentioned before, Rio de Janeiro is a good example of a culturally-developed centre. In addition to having a large number of medical schools, it also attacts medical doctors from other states – about 30% of all Brazilian medical doctors work in the city of Rio de Janeiro. The outcome of such polarization around Rio is a ratio of medical doctors to inhabitants well above the national average.

It was a trivial matter to predict an imbalance in the supply of medical doctors in Rio, as compared to other parts of the country. However, this imbalance was expected to be self-correcting. The over-supply of doctors would bring down their income levels making other locations more attractive to the newly graduated.

However, this does not seem to have happened. Despite, what is perceived as clear signs of a depressed market, emigration does not take place in considerable numbers. According to a medical union report published in 1979, only 12% of doctors leave Rio after having worked there.

What has gone wrong? Why was there no migration? Does the market theory fail to describe their behaviour? Is the behaviour of doctors irrational, as alleged? Before proceeding, some questions of method are in order. What is the meaning of the two propositions: "irrational behaviour", "market theory does not function"?

Economists have a very narrow definition of rationality — or its inverse. Behaviour is said to be irrational only if it is inconsistent or intransitive. Namely, if A is preferred to B, B cannot be preferred to A the next time. In addition, if A is preferred to B, B is preferred to C, then A must be preferred to C.

Liking yellow better than green, liking leisure better than money, liking traffic jams better than mosquitos are preferences whose legitimacy is taken for granted by, and implicit in, the "revealed preference" of individuals. No competent economist would claim that behaviour is determined by pecuniary reasons alone. Hence "irrational behaviour" is a term that describes a very unusual type of behaviour.

Is price theory wrong? It is not likely. It may be tautological, which is worse, but not wrong, unless we were equating price theory to competitive pricing (or perfect competition).

The problem with the introduction of market imperfections and complexities is that theory loses its predictive power. Since the relative importance of several factors cannot be quantified — or even gauged, the outcome is unpredictable. In that sense, it becomes somewhat tautological. Observed behaviour is what allows the identification and choice of this or that explanation.

Be that as it may, it is an instructive exercise to mull over the excess supply of doctors in Rio, as an example of their concentration in the large metropolitan areas of Brazil. It is a fact that there is an imbalance in the density of doctors as compared to smaller towns. It is also a fact that emigration is no higher than immigration. Therefore, we can say that either economic attractions to emigration are non-existent or they are overwhelmed by non-economic considerations.

Several explanations are possible:

i) The decrease in income as a result of competition is not sufficient to create a net advantage to emigration. Large centres such as Rio may have a *per capita* income so much higher than other areas that doctors there may still be better off. It has been observed that the supply of medical services creates its own demand[c]. This may be the case in Rio: there is no glut, just more doctors and more demand for them. Unfortunately, complete data on personal income are not easily available to verify this hypothesis. However, unpublished tabulations from income tax returns suggest that salaries (not income) in Rio are lower than in most other States. Unfortunately the interpretation is not straightforward because of possible differentials in the prevalence of multiple job-holding (the national average is close to two).

ii) The decision to emigrate is practically irreversible. It takes several years to develop a reputation and a circle of clients. Neither can be brought back to Rio later on. Doctors consider smaller towns as undesirable from the point of view of their careers. The logistics, the support services and the flow of information are vastly inadequate in view of the highly specialized career profiles emulated by the graduates of medical schools. In other words, doctors take a long run view of their careers and see large centres as a better choice despite the initial hardships.

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[c] Karen Davies. Implications of an expanding supply of physicians: Evidence from a cross-sectorial analysis. *John Hopkins Medical Journal* **150** (2): February 1982.

iii) Another explanation has to do with risk and lack of information. Moving to an unknown place, lack of information on the potentials of the market, fear of excessive responsibilities in places with little medical assistance, may be sufficient deterrents to emigration.

iv) Frequently mentioned reasons are the amenities and plurality of leisure options available in large cities. Lifestyles and cultural patterns of big cities cannot be compensated by the prevailing income differentials. In other words, doctors are willing to forego some economic benefits in order to preserve certain habits and lifestyles.

Whatever the explanation, doctors prefer to stay in places where the density statistics suggest oversupply. They have their own reasons — economic or otherwise.

The lesson to be derived from this example is that one cannot expect imbalances in the density of doctors to generate compensatory migration. It is not clear whether wage rates do not reflect such quantitative discrepancies or whether the economic incentives are not sufficient to overcome perceived locational preferences. But the conclusion is quite clear: one cannot designate large urban centres as producers and exporters of medical doctors. Physicians have to be trained not very far from where they are expected to work — if complete freedom of choice is to prevail.

LESSONS

This paper discussed four examples of market structures in the health sector. In the case of nurses, market forces were ignored by educators. Yet they were powerful and lead to results totally different from what was expected. In fact, nurses found another market and never accepted the tasks prescribed to them.

The opposite happened with the geographical imbalances in the supply of doctors. Market incentives were supposed to lead to migration. However, it never materialized, doctors remained in the large centres from which they graduated. For some reason, the incentives were not sufficient.

Price rigidities somehow prevented the increased supply of doctors to lead to lower consultation fees. Instead, other less expensive forms of health delivery were developed. Private practice remains protected while the increased supply of doctors is directed to institutionalized medicine.

Equilibrium wages for doctors employed by the social security system are considered too low, contrasting with their expectations. Strangely enough, these preconceptions about "fair price" do play a role because government administrators are doctors who also share such views.

To sum up, the health sector displays complex and less than obvious market structures. They are difficult to understand and sometimes go counter to unsophisticated predictions. Yet they critically influence health delivery patterns. Therefore, they cannot be ignored or taken for granted. Sound economic analysis is all the more necessary.

THE RESEARCH REQUIRED FOR HEALTH MANPOWER DEVELOPMENT

HEALTH SERVICES PERSPECTIVE

J. Kostrzewski*

INTRODUCTION

As stated in the Introductory Document distributed in advance to the XVIth Round Table Conference participants, the objectives of the Conference are: to examine the research requirements in the area of health manpower development as a requisite to achieve the target of Health for All. To that end the Conference will:

— review problems encountered in the planning, development and management of personnel for the health services of all people in a given community; and, identify the contribution at present made and that which is required of research in health manpower development if "Health for All" is to be obtained;

— indicate the necessary action to be taken at regional, national, and global levels to overcome present obstacles to research in this all important area.

My specific task is to introduce the subject of health services perspectives in relation to health manpower development and the research required in this area. Perspectives of health services development emerge from the WHO policy and strategy formulated in two consecutive documents entitled the "Sixth General Programme of Work Covering a Specific Period — (1978-1983)" and the "Seventh General Programme of Work Covering the Period 1984-1989".

The principal objectives of the Sixth General Programme of Work have been grouped in six sections corresponding to the major areas of concern of the World Health Organization throughout the period 1978-1983. The first section entitled "Development of comprehensive health services" is divided into the following nine principal objectives:

(a) To promote the strengthening of countries' capacities for the planning and management of comprehensive national health services;
(b) To promote the development of primary health care;
(c) To promote family health, particularly maternal and child health;
(d) To reduce the incidence of all forms of malnutrition and promote better nutrition of all individuals;
(e) To promote mental health;
(f) To promote workers' health;
(g) To promote closer cooperation of health services with all other sectors concerned with health promotion, including social welfare services;
(h) To promote development of standard health technologies;

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*Unable to attend.

(i) To promote a more rational production, distribution and utilization of safe, effective and economical prophylactic, diagnostic and therapeutic substances.

The other five sections of the Sixth General Programme of Work are the following:

1. Disease prevention and control
2. Promotion of environmental health
3. Health manpower development
4. Promotion and development of biomedical and health services research
5. Programme development and support

Programme areas presented in Sections 1, 4 and 5 should be of special concern to our Conference. The interaction and cooperation between those three sections should help in programming research for health manpower and health services development throught the years 1983-1989.

Shortly after the adoption of the Sixth General Programme of Work the International Conference on Primary Health Care was held in Alma-Ata in 1978[1] and the resolution was adopted by the Thirteenth World Health Assembly (WHA 30.43) which defined the goal of "Health for All by the Year 2000". These two events greatly influenced the implementation of the Sixth General Programme of Work as well as the philosophy and formulation of the Seventh General Programme of Work adopted by the WHO Executive Board at its sixty-ninth session and approved by the Thirty-fifth World Health Assembly in May 1982.

A series of WHO documents published in 1981 offer good guidance for programme implementation and form a sound basis for global strategy of health services and health manpower development. The main documents are the following: Global Strategy for Health for All by the Year 2000; Managerial Process for National Health Development: Guiding Principles; Development of Indicators for Monitoring Progress Towards Health for All by the Year 2000; and Health Programme Evaluation: Guiding Principles.

In June 1978, the Global Advisory Committee on Medical Research created a Subcommittee on Health Services Research which, up to the end of 1980, organized six sessions and stimulated the collection and analysis of information on the current involvement of WHO in health services research.

GLOBAL STRATEGY FOR HEALTH

The Global Strategy for Health for All by the Years 2000 was formulated by the Executive Board of WHO in 1979 and described as the broad lines of action required in all sectors to give effect to health policy[2]. The global strategy is set in the concept of countrywide health systems based on primary health care, understood as essential health care based on practical, scientifically sound and socially acceptable methods and technology. These methods and technology should be universally accessible to individuals and families in the community through their full participation, and at a cost that the community and country can afford to maintain at every stage of their development, in the spirit of self-reliance and self-determination.

Primary health care forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and the community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process. All governments should formulate national policies, strategies and plans of action to launch and sustain primary health care as a part of a comprehensive national health system and in coordination with other sectors. All countries should cooperate in this endeavour.

The development of the health system infrastructure for delivery of countrywide services for health promotion, disease prevention, diagnosis, therapy and rehabilitation are the main thrusts of the national strategy. The strategy should involve specifying measures to be taken by individuals and families in their homes, by communities, by the health services and by other sectors. Appropriate technology should be selected for the country concerned which is scientifically sound, adaptable to local circumstances, acceptable to those for whom it is used and to the personnel who use it, and maintainable with resources that the country can afford. International action should be taken to support the above national action through exchange of information, research promotion, technical support training, and ensured coordination. These activities should be the main responsibility of the WHO.

The ministry of health, or analogous authority representing the health sector, is the focal point for the national strategy. This institution may require strengthening in order to ensure political commitment at the highest national and international level.

MANAGEMENT OF NATIONAL HEALTH DEVELOPMENT

In order to formulate and implement the strategy for reaching the goal of "the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life", a managerial process must be applied by each country. The strategy and managerial process must take into account the country's own health situation and resources, social and economic conditions, as well as political and administrative mechanisms. The importance of decentralizing the managerial process and involving communities' participation in taking decisions concerning their own health care must be emphasized.

Despite wide variations from country to country, it is possible to identify common components of the managerial process for national health development. These are the following:

(a) The formulation of national health policies, comprising goals, priorities and main directions towards priority goals, that form part of national, social and development policies;

(b) Broad programming — the translation of these policies into strategies to achieve clearly stated objectives and specific targets;

(c) Programme budgeting — the allocation of health resources for the implementation of these strategies;

(d) Detailed programming — the conversion of strategies and plans of action into detailed programmes that specify objectives and targets, and technology, manpower, infrastructure, financial resources, and time required for their implementation;

(e) Implementation — the translation of detailed programmes into action so that they come into operation as an integral part of the health system;

(f) Evaluation of health strategies and operational programmes for their implementation, in order to improve their effectiveness and impact;

(g) Reprogramming, as necessary, with a view to improving the plan of action or some of its components, or preparing new ones as required, as part of a continuous managerial process for health development.

The publication "Managerial process for national health development: Guiding principles" outlines in detailed a total managerial process for national health development.[3]

HEALTH PROGRAMME EVALUATION

Health programme evaluation is part of a broader managerial process for national health development.[4] The purpose of evaluation is to improve health programmes and the health infrastructure for delivering required services to the whole population of the country concerned and to guide the allocation of resources in current and future programmes. The responsibility for evaluation devolves on the people who are responsible for the development and implementation of the managerial process for national health development in the country concerned. Well-defined indicators and criteria should be used in the evaluation process to measure changes and to set up standards by which actions are measured. All these activities must be supported by valid, relevant and sensitive information.

The process of evaluation consists of the following components:
— specify the particular subject for evaluation,
— ensure information support,
— verify relevance,
— assess adequacy,
— review progress,
— assess efficiency and effectiveness,
— assess impact,
— draw conclusions and formulate proposals for future actions.

The evaluation process should be used in a flexible manner and must be adapted to the circumstances in which it is to be used.

A volume entitled "Development of indicators for monitoring progress towards health for all by the year 2000" was published by WHO in 1981[5] in order to help Member States and the World Health Organization in deciding which indicators to

use at the national, regional and global levels, for monitoring progress towards health for all by the year 2000.

Four categories of indicators are proposed:

— health policy indicators,
— social and economic indicators,
— indicators of the provisions of health care,
— indicators of health status, including quality of life.

These indicators have to be seen as a tool to be used in a well defined national process for monitoring and evaluating strategies for health for all. Such a process must be introduced, not only at national level, but at regional and global levels as well.

The following list of 12 global indicators was adopted by the World Health Assembly in 1981.

The number of countries in which:

(1) Health for all received endorsement as policy at the highest official level;

(2) Mechanisms for involving people in the implementation of strategies have been formed or strengthened, and are actually functioning;

(3) At least 5% of the gross national product is spent on health;

(4) A reasonable percentage of the national health expenditure is devoted to local health care (first contact level, including community health care, health centre care, dispensary care and the like, excluding hospitals);

(5) Resources are equitably distributed;

(6) Well-defined strategies for health for all, accompanied by explicit resource allocations, whose needs for external resources are receiving sustained support from more affluent countries;

(7) Primary health care is available to the whole population, with at least the following: (a) safe water in the home or within 15 minutes' walking distance, and adequate sanitary facilities in the home or immediate vicinity; (b) immunization against diphtheria, tetanus, whooping cough, measles, poliomyelitis, and tuberculosis; (c) local health care, including availability of at least 20 essential drugs, within one hour's walk or travel; (d) trained personnel for attending pregnancy and child birth, and caring for children up to at least one year of age;

(8) The nutritional status of children is adequate, in that: (a) at least 90% of newborn infants have a birth weight of at least 2500g: (b) at least 90% of children have a weight for age that corresponds to the reference values proposed by WHO;

(9) The infant mortality rate for all identifiable subgroups is below 50 per 1000 livebirths;

(10) Life expectancy at birth is over 60 years;

(11) The adult literacy rate for both men and women exceeds 70%;

(12) The gross national product per head exceeds US $ 500.

HEALTH SERVICES PERSPECTIVES AS REFLECTED IN THE SEVENTH GENERAL PROGRAMME OF WORK (1984-1989)

The Executive Board of WHO decided in January 1980 that the focus of the Seventh General Programme of Work should be on the long-term goal of Health for All by the Year 2000.

The principal objective of the Programme will be to promote, coordinate and support the efforts of Member States individually and collectively in implementing the global strategy for health for all. The Programme will aim at fostering national and international action so that by 1984 all Member States will have developed national strategies for health for all, by 1985 they will have developed plans of action for implementing the strategies, by 1986 these plans of action will be fully operational, and by 1989 they will be at an advanced stage of implementation.

Few countries anywhere have a national health system based on primary health care in which all components function in an integrated and coordinated way. Health institutions frequently exist side by side, serving the same populations with little or no cooperation or exchange of information between them. Systematic efforts are required to build up health system infrastructures based on primary health care for the delivery of health care in an integrated manner to all people. There is a need for information on the health situation and trends as a basis for the planning of such health systems. Such planning forms an essential part of a continuing managerial process ranging from policy making to implementation, monitoring, evaluation and ensuring information support. Closely related is the need for health systems research to arrive at optimal ways of organizing a health system and integrating a variety of programmes into it. Continuous effort is required to organize the systems, ensure the proper functioning of its components and the relationships between them. Crucial to all these efforts is health manpower development, without which the infrastrcuture cannot be planned, organized and managed properly. Health manpower development and health services development must go hand in hand. The health services should be an integral part of the health services development programme linked closely with health manpower development.

WHO RESEARCH PROGRAMME ON DEVELOPMENT OF HEALTH SERVICES

In June 1976 the Global Advisory Committee on Medical Research organized and informal consultation on health services research and, after discussing at its eighteenth session the report and recommendations presented by the consultative group, decided to recommend, among others, the following actions to be taken by Member countries:

(1) establish a national health policy that health services research will be an integral part of health services development;

(2) establish, or if necessary strengthen, a health research body involving both the government and research institutions to develop a programme of health services research; and

(3) incorporate a research component as well as an evaluation component into all health services development projects.

The Global ACMR also recommended the following actions to be taken on the part of WHO:

(1) identify and initiate a series of steps leading to the formulation and implementation of a comprehensive programme of research for the Organization in direct response to Resolution WHA 29:64; and

(2) strengthen the available mechasnisms of collaboration and support to Member countries by the following most important actions, among others, to be taken by the Organization:

(a) convene a committee to review the current status of health services research and its future development;

(b) provide appropriate resources for research and for research training grants in health services research and development;

(c) continue to identify and revise regularly the information about centres where quality research is being done and which can provide the professional expertise;

(d) intensify efforts to assist Member countries in developing data bases and information systems;

(e) promote and support intercountry or interregional research programmes and consultation in the health services research field; and

(f) promote and support intercountry and interregional research training activities based on real planning situations and operating health services programmes.

As the result of these recommendations, the Global ACMR at its 20th session held in June 1978 established the ACMR Subcommittee on Health Services, comprising the Chairman and five members of the Global ACMR. Since then this Subcommitte has held six sessions, the last one in Addis Abada in November 1960.[6]

The Global ACMR, at its 1980 meeting, agreed that its Subcommittee would terminate with the Addis Ababa meeting, and approved the formation of a Scienific Steering Committee (SSC) on Health Services Research as proposed by the Subcommittee. Terms of reference of the SSC should make clear its relations at global and regional levels of WHO, including those with technical programmes.

The Subcommittee recommended the following matters as priorities for the SSC's attention:

(1) Activities in Member countries and in WHO programmes to promote understanding of and commitments to health services research where such research is underdeveloped.

(2) Periodic review and evaluation of the WHO effort in health services research and its relation to country needs.

(3) The establishment of a global network of research centres to facilitate technical collaboration in training, international strengthening and research methodology.

(4) In cooperation with the regions, the support of the establishment in each region of at least one national health services research project funded to assist neighbouring countries in establishing their own health services research capabilities as well as for domestic purposes.
(5) The establishment of a framework for the allocation of funds to promote, facilitate and execute selected health services research projects and advise on methods of managing funds and introducing suitable research review mechanisms.
(6) Activities to promote and strengthen intersectoral research, for example, links with development research institutions.

Following considerations and recommendations made by the Subcommittee on Health Services Research and recommendations made by the Global ACMR, all Regional ACMRs developed programmes of work in the field of health services research but the progress in this area is very slow and is not yet reflected in improving health services organization and activities. The time has come for action. This is a proper time to specifiy a concrete plan of action at the country, regional and global level. It is also time for continuous evaluation of the progress made this area.

HEALTH SERVICES AND HEALTH MANPOWER DEVELOPMENT RESEARCH

Research in the field of health manpower development is an integral part of health services research and should be guided by the principles outlined in the World Health Assembly document A29/15 approved by resolution WHA 29.72. This research should be oriented to the attainment of the two principal objectives of the Sixth General Programme of Work, namely:

(1) To promote the development of appropriate health personnel, to meet the needs of entire populations; and
(2) To promote the development and application of relevant processes for basic and continuing education.

The WHO document HMD/78.2 entitled "Health manpower development research as one element of health service research" outlines the recent development of a global medium-term programme for health manpower development which should go hand in hand with planned development of health services.[7].

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THE RESEARCH REQUIRED FOR HEALTH MANPOWER DEVELOPMENT

HEALTH MANPOWER PLANNING AND MANPOWER PERSPECTIVE

G.C. Salmond

INTRODUCTION

Health manpower development (HMD), like the development of health services generally, is in large part a culture and country-specific process. While there may be principles and practices which apply generally, HMD will best succeed when it is firmly grounded in the local environment. Accepting this fact I will confine my observations to aspects of the health manpower process in New Zealand. However in doing so I hope that some of what I have to say may be relevant for those of you struggling with similar issues in other parts of the world.

First, a brief sketch of New Zealand and its health services.

HEALTH CARE IN NEW ZEALAND

New Zealand is an economically developed in the Western sense; life expectancy is relatively high, mortality rates are relatively low and communicable disease is controlled. New Zealand may attribute its good fortune to the natural resources of the country which are shared by a relatively small and well-educated population, with good housing and standards of environmental hygiene, relatively stable political and economic circumstances with little unemployment, ample food and readily accessible health care of a generally high standard. Health status and morbidity patterns are changing as the country makes the transition from a period of rapid population growth and economic expansion to a period of slow if any population growth, and of modest if any economic expansion.

In 1940 New Zealand had the third highest standard of living among the nations of the world. While living standards have continued to rise in subsequent decades, New Zealand's position among OECD nations had slipped to about nineteenth place by the mid 1970s.

Thus today New Zealand is a country of relative affluence with a health and morbidity profile similar to that of most developed countries of the Western World. Its diseases are principally those associated with an affluent lifestyle and an aging population. Most health care is directed towards the care of the chronically ill and the elderly and those who suffer from the consequences of lifestyle disorders such as heart disease, hypertension, diabetes and the consequences of alcohol abuse including accidents. Infectious disease is now a relatively unimportant health problem.

High priority has been given to public spending on health care since the early 1940s. Growth in this expenditure continued during the early and middle 1970s at a time when overall national economic performance went into decline. Now, in the early 1980s, determined efforts are being made to constrain public expenditure on health and other social services. Annual growth in public hospital spending has been reduced to less than 1% and by not fully stabilizing state subsidies for inflation, an increasing proportion of health care costs are being handed back to patients. Today New Zealand spends about 6.7% of its gross national product (which is now only modest by Western standards) on health services. The demands for health services are now much greater than the country can afford to provide.

HEALTH MANPOWER

Manpower is the most important and costly resource in the provision of health care. Three out of every four dollars of health expenditure goes on wages and salaries. In spite of this, manpower planning has in the past not received the attention it warrants.

Over the last 20 years the size of the health workforce has increased generally in keeping with the growth in health expenditure. In 1966, 4.3% of the total labour force were employed in the health sector. By 1976 this had risen to 5.3% and by 1981 to 5.7%.

The recent constraints on public health expenditure mean that growth rates in health manpower must be curbed. During the years of economic expansion pressures arose which led to increased student intakes for many health occupations. Now, with constrained resources it seems that we may be entering a phase in which we are not able to employ the available manpower in a number of areas.

Over-production is only one aspect of the supply problem. In the past many female workers left the workforce after only a short period of employment and many did not return. With changing social and economic circumstances fewer women are leaving the workforce and more are seeking to return. Also, rates of loss by emigration are falling in many occupations. However, perhaps the most important problem is the changing manpower requirements of the health services.

In brief, it is likely that the health services of the future will give much greater emphasis to health promotion, disease prevention and primary health care in its many dimensions than has been so in the past. At the same time the emphasis given and the recources directed towards the institutional aspects of care are likely to be reduced. Team work involving people from different disciplines, many of them from outside the traditional health sector, will become increasingly important. To meet these new requirements there will have to be major changes in the recruitment, training and deployment of health workers. This, together with the need to manage within resource restraints, will present the future planners and managers of health services with their most difficult problems.

With talk of increasing economic restraint, shrinking staff ceilings and the prospect of over-supply, many health workers, particularly students and recent

graduates, are fearful of future unemployment. Added to this there is increasing anxiety among members of the smaller and less powerful occupations that the larger and stronger groups will seek to expand the areas of work over which they claim control. The greatest fear is of expanded medical involvement at the expense of other health workers. Without careful and sensitive control this could see battle lines firmly drawn between the occupational groups in increasingly fragmented and divided health services. Unless ways and means can be found for groups to get together, to share information, to identify common goals and to compromise parochial interests in a concerted effort to achieve those goals, the future outlook could be bleak indeed.

Projections of how many health workers should do what, will not generate much confidence until there is a much more rigorous approach to all aspects of health planning. Educational schemes developed in isolation from such planning are not likely to produce health workers of the type and in the numbers required. A new and integrated approach is needed which is firmly based on a more systematic and rational examination of the issues. New methods are needed to gather and share a wider range of manpower information. More research, critical analysis and structured discussion is needed to explore options and to seek out new solutions. More open and informed debate is needed between the various health disciplines and between the health and education sectors about the future goals for health care and about the training and deployment of health workers. The goals set for the future development of health services must be realistic in terms of the resources available. To these goals manpower planning must be linked firmly.

AN EVOLVING HEALTH MANPOWER PROCESS

Until the early 1970s there was relatively little interest in planning health manpower. With resources flowing relatively freely the greatest limitation on growth in health services was a shortage of skilled health workers. To fill the gap between supply and demand, the immigration of overseas trained workers was encouraged.

Such planning as did take place was sporadic. From time to time individual occupational groups would establish *ad hoc* committees to gather information and report on manpower requirements. Generally these committees confined their attention to matters of direct and immediate concern to the group. Planning interaction with other health-related occupations were largely ignored in the absence of a general framework for health manpower planning.

To help overcome these problems the Department of Health, in 1974, established within its Management Services and Research Unit a manpower planning section with the following functions:

— to develop and maintain a comprehensive manpower planning data base to cover all professional and technical workers involved in the delivery of health care;
— to forecast the manpower required to meet stated health planning objectives;
— to devise and recommend measures to ensure that existing manpower resources are used effectively and efficiently and that the required resources are available when and where they are needed; and

— to develop and maintain liaison with all organizations involved in the recruitment, training and deployment of health workers.

The first and most pressing task was to put together a comprehensive, accurate and up-to-date descriptive statement of existing health manpower resources. This proved to be a difficult task because only fragmentary information was available about some groups of health workers. In October 1974 the section produced its first report "New Zealand's Health Manpower Resources", which set out the then available information on 27 health-related occupations. A revised and enlarged report was published in 1978 and another with data on 33 occupations was published in 1982.

Since 1974, efforts have been made to improve both the quantity and the quality of information about the health workforce. Data have been gathered from many sources but the most successful method of collection has been by way of questionnaires sent out with the annual practising certificates issued by professional registration bodies. This method was successfully pioneered by the Medical Council in 1972 and is ongoing with response rates close to 100%. Similar collections are now in operation for a number of other occupational groups.

Next the unit has played a catalytic and coordinating role in encouraging the individual health-related occupations to become actively and continuously involved in manpower planning. To this end national manpower planning workshops have been held — a medical workshop in 1976, the nurses in 1977, the dentists in 1978 and the health administrators workshop in 1979. In each case provision has been made for ongoing planning. As well as being involved with these larger groups the manpower section has supported the planning efforts of smaller occupational groups such as physiotherapists, occupational therapists, pharmacists, dietitians and radiographers.

The unit is most centrally involved in medical manpower planning, because it is the one place within the health services where all medical manpower interests come together. The unit services directly the Advisory Committee to the Minister of Health on Medical Manpower. The unit is less directly involved in areas such as nursing and dentistry where there are separate divisions of the Department of Health which have specific manpower planning responsibilities. However for many of the smaller occupational groups, and indeed for some of the larger ones such as health administrators, it is far from clear as to where the responsibility rests for manpower planning. What is needed is some way of integrating the national health manpower planning effort and of putting the health manpower unit and its activities on a better organized and more formal footing.

To draw attention and to and to focus upon this issue a national health manpower planning workshop was held in September 1982. To this one week residential workshop were invited representatives of all health manpower interests — the Department of Health, the education authorities, the principal employers (hospital boards), the voluntary sector and of the various health-related occupations. The task of the workshop was to prepare proposals for a fully integrated and ongoing health manpower development process, which takes full account of the manpower needs of the evolving health services in New Zealand.

While it is not possible to foretell the outcome of the workshop the following decisions seem likely. First, each health occupation will be required to establish a

focal point for manpower planning activity. For the larger occupations this is likely to be a standing manpower development committee which is suitably representative of all interests. Second, a national health manpower council will be formed to promote, facilitate, integrate and coordinate health manpower planning and development. Third, the existing health manpower unit will be strengthened to enable it to more effectively catalyse and facilitate HMD.

THE HEALTH MANPOWER UNIT

The key to the success or failure of these initiatives is likely to be the health manpower unit. Skillful leadership from the unit will be required if the move towards more integrated planning is to be successful.

The main functions of the unit are likely to be:

— planning and programming;
— coordination;
— catalysis of process;
— monitoring and evaluation;
— research and development; and
— information collection and analysis.

These are now examined in turn.

Planning and Programming

The core functions here are:

(1) the linking of health manpower planning with national health planning within the context of overall plans for socioeconomic development;
(2) the provision of assistance in the formulation of a national health manpower policy and plan consistent with national health policy and with other sectoral policies for education, employment, science and technology and social welfare;
(3) the interpretation and transmission to decision makers of the views of consumers and of what they expect of services and of those providing them;
(4) the development of health manpower planning capabilities at the national, regional and local levels; and
(5) coordination of the various elements and functions of the health manpower process.

Coordination

Coordination, like catalysis, will be an important function of the unit because the institutions and agencies involved are not directly controlled by it and tend to work independently of each other and of the health manpower unit. The purpose of coordination is to distribute the several parts of the health manpower process among the agencies involved in such a way that no part of the task is neglected, there is minimal wasted effort through duplication and implementation follows a logical and

proper sequence in time. The basic aim is to maximize the effect of the various constituent parts of the entire health manpower system.

The coordination function has two phases:

(1) an in-gathering place in which information, opinion and policy from as many of the people involved in the manpower process as possible are brought together; and

(2) an out-going phase in the later stages of planning, when coordination is needed to ensure that all facets of the plan are communicated, understood and implemented.

Coordination involving several health manpower and related organizations cannot always be informal and intuitive. Formal interorganizational relationships are needed if real coordination is to occur. To this end the unit will work closely with the national health manpower council.

Catalysis of Processes

In the absence of direct control over the entire health system those in the health manpower unit must take positive action to promote and coordinate health manpower planning. The role of the unit here is seen as that of a catalyst able to demonstrate the disadvantages of some existing arrangements and the need to set out in new directions.

Monitoring and Evaluation

Monitoring and surveillance based on continuous or regular data gathering, observation and analysis are important functions of the unit.

Research and Development

Improved solutions to health care problems are needed in any health system. Researchers and developers are above all concerned with developing and adapting techniques and methods to meet local needs. Manpower research in this context is seen as part of health services research.

Information Management

Information gathering, analysis and sharing is a key element in health manpower planning. Planning cannot occur without an adequate information base. Data, or information based on data are essential at every stage — from the formulation of alternative strategies to the monitoring of implemented plans.

The health manpower unit should assume responsibility for the design and operation of required information systems. The information to be collected, the methods of data collection, the analysis and the timing must be tailored to the various needs of the planning processes. The unit should keep an inventory of all the information sources available.

There are certain advantages in the administrative decentralization of information gathering and retrieval. Too often this is the task of a central statistical agency in which the relationship between it and the respondent institutions is only one-way. The

manpower unit should contract with the professional registration bodies, associations and vocational colleges for the supply of manpower information. This has two advantages: it eases the workload of the central agency and, because the other bodies participate in the data gathering and analysis, they are more ready to accept conclusions derived from them.

It is likely that the health manpower unit will remain in the Department of Health. It may continue as a "stand alone" unit but could become part of a more broadly based health planning unit. It could be shifted to the Department of Education. Regardless of where it is situated to succeed the unit needs:

— a close liaison with top health services policy makers;
— freedom to cooperate with other relevant units in statistics, epidemiology, personnel, management etc.;
— freedom to consult with those involved in health planning in the lower echelons of the health system and with training and service agencies;
— close contact with health care developments; and
— political, administrative and financial support.

RESEARCH CAPABILITY

There is need for more and better research into all aspect of HMD in New Zealand. To date some useful work has been done, but this has been largely due to isolated initiatives by individuals or organizations. What is needed is an established structure and definitive policy mechanisms for HMD that will support research and link it with policy and programme formulation. After September 1982, it is hoped that New Zealand will be closer to having such arrangements.

The need to devote a greater share of the resources available for research to health services research is widely accepted in New Zealand. In this context health manpower research is recognized as a priority area. Until now the main constraints have been lack of individual and institutional capabilities to initiate, encourage and support research and to ensure that the research output is used. Given the limited resources available in a small country there is need to focus the resources and the responsibilities for health manpower research in one place, hence the importance of strengthening the health manpower unit.

Once there is commitment to the new arrangements a priority task will be to increase the national capability for HMD research. As the range of required research is so wide it is likely that efforts will be aimed at strengthening generally the national capacity for health services research.

In the past most health services research in New Zealand has been carried out using quantitative methods — the so called "conventional approach". There is now growing awareness of the limitations of such methods and realization of the possibilities for the naturalistic or phenomenonological approach. It will of course take time for those trained in traditional medical science to understand and accept the complementarity aspects and the strengths and weakness of the two approaches but there is reason to believe that this understanding is growing.

RESEARCH REQUIRED

What follows is a review of the information requirement for HMD in New Zealand with an indication of the priority areas for research.

Demographic Data

— Present and projected population according to age and sex.
— Population density and distribution.
— Migration.
— Life expectancy.
— Present and projected birth and death rates.

Demographic data are absolutely essential to health manpower planning, irrespectative of the methods used. All projections must be continually adjusted as new demographic data become available.

Good New Zealand data are now available in each of the above areas. It is however sometimes difficult to obtain required regional and local breakdowns of these data. This may to some extent be overcome when the Department of Health produces its regional data handbook.

Economic Information

— Patterns and trends in health expenditure — public and private and including regional variations.
— Costs of providing services by region, by hospital and health board area, by institution and by type of service.
— Cost/effect estimates for different health programmes and for different manpower arrangements.
— Costs for providing care to different age groups other sections of the population.

Economic constraints are among the most important ones affecting health manpower planning. At present the economic information available about health and health services in New Zealand is limited. As a result of efforts to develop a formula for the allocation of funds to hospital boards on a population base better information is becoming available. This is recognized as a high priority area for research and development.

Health Status and Needs

— Mortality and morbidity data according to major causes by age, sex and geographical distribution.
— The extent to which the leading causes of death and illness result in a demand for health care and disability.
— Environmental, nutritional, cultural and other factors affecting health status.

Routine morbidity and mortality statistics are of limited value for health manpower planning. Data on true prevalence, incidence and effect of the principal

diseases are generally not available and proxy measures — indicators such as hospital bed use, must be used.

Unlike many larger countries, New Zealand does not conduct a regular national household health survey. The cost of a survey of the required size would probably be prohibitive. However from available national data collections and various *ad hoc* studies, it is possible to piece together a reasonably good picture of health and health services in New Zealand. The Department of Health has been working on such a project for a number of years and expects to bring this together in monograph form in the near future.

Utilization of Health Care Services by the Population

- Health services used according to number, type, quality and effect.
- Characteristics of those who use services, including their attitudes and knowledge regarding the use of health services and of the health system that provides them.
- "Unmet" demand or needs for health services.
- Approximate volume of services desired (or needed) that are not obtained, according to type of service.
- Characteristics of those who desire (or need) services.
- Reasons for not obtaining the desired (or needed) services.

Information on use of health services can be an important component of a manpower study irrespective of whether the "health needs" method or the "demand for health services" method is used. Even when the economic method or health manpower: population ratios are used, knowledge of current utilization can guide planners in selection of a future ratio.

Gradually more complete, better organized and more skilfully analysed and presented data on the use of health services are becoming available in New Zealand but there is still considerable scope for improvement here.

Supply of Health Manpower

- Data, according to manpower category, on the number, activity status, sex, age, work, geographical location, and speciality qualification of personnel.

As previously indicated the data available on the health workforce in New Zealand has improved greatly over recent years. Comprehensive manpower supply statistics are now published regularly but there are still deficiencies in some areas.

The Health System and Health Manpower Use

- Data on the number, size, characteristics and distribution of health facilities, of their staffing patterns including job vacancies, and of their functional interrelationships.
- Data on the diverse aspects of health manpower productivity, functions in different settings, and the institutional, organizational, and legal contexts within which health personnel are active.

Information of this sort, which is difficult to classify in precise categories, is vital to understanding the health system, its manpower requirements, patterns of manpower utilization and to identifying the potential for change.

There is still relatively little information available on what could be called the utilization and management aspects of health manpower. Most of this information should come from the principal employers of manpower — the hospital boards and the Department of Health. Under the National Payroll System of the Department of Health's Data Processing Division manpower information can be produced as part of the personnel management system. The extent to which this information can be integrated into the health manpower process is an area now requiring a major research and development effort.

Health Manpower Training

- Quantity and quality of applicants for training.
- Enrolments by year of study.
- Institutional objectives.
- Duration of study.
- Number and qualifications of teaching personnel.
- Actual and potential capacity of the training institutions.
- Student attribution and repetition and their major causes.
- Costs of training.
- Content and organization of curricula.

Health manpower planners must exercise discretion in collecting data on manpower training. This information is vital for the projection of supply, but several categories of data such as curriculum analysis, faculty characteristics and cost of training can easily lead to complicated studies that could only be justified by educational authorities.

In most countries health sector/education sector interaction is an area which presents problems for manpower planners. Good communications here are essential if planning is to succeed. It is expected that developments following the September workshop will facilitate these communications. This is also an area in which research is needed.

Health Manpower Planning in the National Context

Information about:

- planning bodies, professional organizations, educational and service institutions, and consumer and political groups interested in health manpower and health services;
- requirements for trained manpower for sectors other than the health sector;
- the government policies, priorities, and programmes;
- long-range development plans and prospects; and
- administrative capacities and constraints.

Much of the intelligence required here must be the responsibility of the national health manpower unit. It must be firmly linked to the many networks which are party

to such information. There is however scope for research in this area particularly research using phenomenonological methods such as those applied by social anthropologists and political scientists.

CONCLUSION

Recognition in New Zealand of the need to plan health manpower more effectively has increased gradually over the last decade. In that time there have been a number of significant research and planning initiatives but in the absence of a national focus for HMD, progress has been patchy and generally slow. Now as a result of resolutions and recommendations at the September 1982 national health manpower workshop, the tempo of HMD activities is expected to rise.

One direct result of this development is likely to be heightened demand for better health manpower intelligence and more research. With this demand could come not only the resources needed to expand the research effort but also the vehicle required to ensure that the research output is used. To grasp these opportunities when they arise is the challenge offered to the research community.

THE RESEARCH REQUIRED FOR HEALTH MANPOWER DEVELOPMENT

EDUCATIONAL PERSPECTIVE

O.O. Akinkugbe

As the universally acclaimed credo of "Health For All by Year 2000" (HFA) grinds inexorably from rhetoric to reality there is a pressing obligation for the international forum to generate greater awareness and throw its profound message into bold relief (Fig. I). One such means is through this symposium, for health manpower and health services development constitute the central plank on which the edifice of HFA must rest. Enthusiasm for its success, however well-placed, must be tempered by the existence of certain inevitable pitfalls in strategy and implementation, and by our own existing knowledge of regional and global inequities in health. But we must remind ourselves that HFA is at best a stated goal and that its ultimate realization depends on factors that are not only social but political and economic. Some of these are obviously beyond the means of the "health industry" itself to grapple with, let alone tackle.

I begin by addressing four fundamental questions to any nation's scenario:

(i) Is there a coherent national health policy?
(ii) Is there a sound educational base?
(iii) Are these two linked in some well-articulated sociopolitical ideology?
(iv) To what extent is the community for which these services are planned aware of the importance of both as vital instruments of social reform?

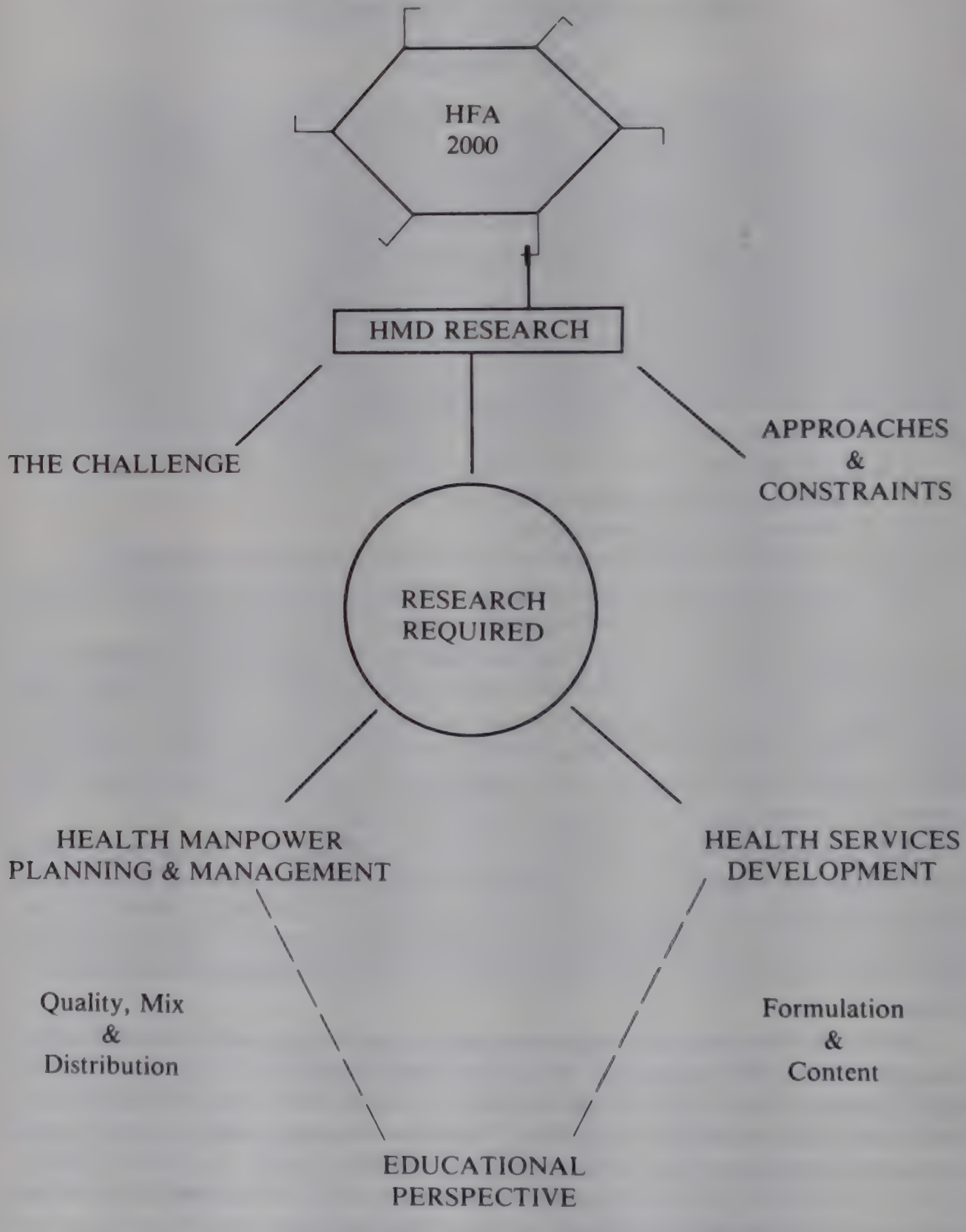
Any nation that can answer these questions in the affirmative has already won half the battle for HFA. It is, however, a sad reflection of our times that only a small percentage of the world's population can confidently do so, in spite of vigorous claims in many national political manifestos. Yet we all endorse primary health care (PHC) without appreciating its wider implications in terms of total care coverage, community participation, professional consultation and referral.

The provision of a comprehensive health care system is on the agenda of every new national government, but the competing claims of other sectors of the economy soon compromise the realization of stated health goals. The health sector then has forced on it the kind of adjustments and modification in character and function that were never envisaged for it and the result is utter chaos, disenchantment and failure to deliver.

Health services and health manpower are both worthy of careful and methodical research if HFA 2000 is going to be anywhere near attainable. Today many nations would measure their success in the delivery of health care by the kind of curative health services they are able to provide. These same societies would go on to regard the doctor/population ratio as the ultimate yardstick in health manpower development. Yet we know that both these approaches are narrow and outmoded but we are intellectually lazy in seeking methods to correct these attitudes and devise a wider and more durable measure of the success of a national health scheme.

Figure I

HEALTH FOR ALL BY THE YEAR 2000:
THE HMD & HSD PERSPECTIVE



Such apathy is a product of stubborn resistance to innovation, misguided guild complex by the professions, bureaucratic conservatism in the ministries and intellectual arrogance in the health training institutions, notably the universities. But perhaps the lesion is more deep-rooted. Could it be that the educational apparatus itself ill-prepares society and the health worker for the tasks ahead and the responsibilities involved in health care delivery? Are we leaving too much to the ministries and the health professional schools in defining objectives, devising a policy, articulating its programme and working out a strategy for its implementation? (Table 1).

Table 1

RESPONSIBILITY FOR MANPOWER & SERVICES IN THE HEALTH SECTOR

	HEALTH MANPOWER		HEALTH SERVICES	
	Training	Research	Development	Research
Government (Health & Policy)	+	±	+ +	±
Educational Institutions	+ +	±	+	−
National Accreditation Bodies	+	−	−	−
Professional Associations	+	−	+	−

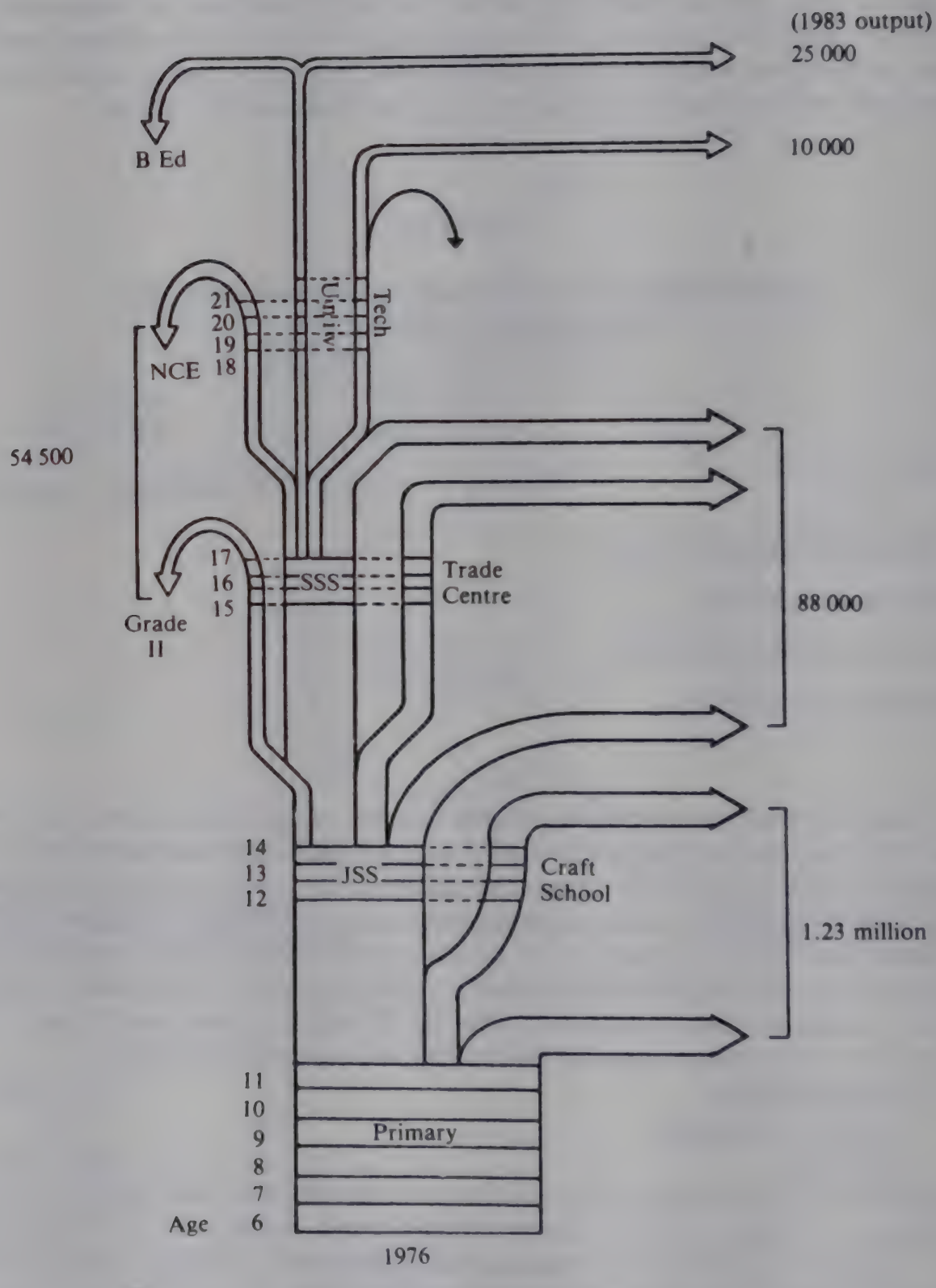
Using the Nigerian experience as a case in point, would health services have been more effectively and efficiently delivered if early education had emphasized in its curriculum the vital elements of community participation, functional interdependence and a moral commitment to the neglected rural majority? Should we not put a higher premium than we have hitherto done, on the products of the junior primary school system who are at a stage when a sizeable percentage of their number can be mobilized for training as health auxiliaries? (Fig. II). Would the objectives in health care delivery have been better served by identifying three phases of training:

— Pre-professional
— Formal professional
— Continuing

and devising curricula to meet these challenges at the different stages of maturity and development. In many parts of the developing world, should we not be paying as much attention to planning the educational programme of *medical auxiliaries* and *community health workers* as we are apparently doing to the medical school curriculum? Herein lies the challenge of educational research as an essential ingredient of health manpower development.

Figure II

FORMAL EDUCATION IN NIGERIA
1990



SSS — Senior Secondary School
JSS — Junior Secondary School

To view research in this manner would appear to many as too abstract and mundane. It carries no charisma. Such attitudes again belie our basic prejudice against research that does not necessarily conjure the drama of the microchip hardware of demography, the complex modern diagnostic and curative technology of clinical medicine or the techniques of bioscientific and laboratory experimentation.

An educational curriculum can only be truly relevant and responsive if it seeks to find solutions to the problems highlighted in Table 2. These problems are of special relevance to the developing world where ignorance, poverty and disease still constitute a major threat to the well-being and orderly social and economic emancipation of these societies. The solutions must be addressed through the coordinated effort of ministries and national institutions (with the necessary assistance of regional and global bodies as the situation demands). University health institutions are eminently placed to encourage research of this nature by devising appropriate curricula and recognizing the research contributions of staff in this field through rewards in enhanced status and academic advancement.

Table 2

PROBLEMS CONFRONTING HEALTH SERVICES (HS) AND MANPOWER (HM) DEVELOPMENT (AN EDUCATIONAL PERSPECTIVE)

HS	*HM*
Ill-defined objectives	Poor preparation
Inadequate coverage	Inadequate manpower
Uneven distribution	Poor mix and coordination
Meagre resource	Little motivation
Misplaced priorities	Ill-contrived curricula
Uninspiring community participation	Inadequate attention to prevention
Weak demographic base	Professional protectionism
Bureaucracy	Resistance to innovation

It might be legitimately argued that attempts to drastically reshape the curriculum to reflect this growing concern for health manpower development and give basic research its deserved premium would be tantamount to interference with the freedom of these institutions to pursue their scholarly activities. This need not be so. Health institutions have an obligation, through their own research endeavours to assist society in overcoming some of the forces that overtly or unwittingly stand in the way of HFA. It is easy to see how the various problems listed in Table 2 are so closely interrelated and how strong a bearing they all have on the sociocultural ethos of the

community. It also does not require much imagination to surmise the functional interdependance of health service and health manpower. Both these share the same educational perspectives and, more important, similar ideological goals and operational logistics.

If one were to assign responsibilities in a broad sense, it is probably fair to say that health services are as much the province of ministries as health manpower is that of the training institutions. How then can the efforts of both be harnessed in the realization of HFA? Apart from the fundamental reorientation of the health training curriculum advocated above, how else can the influence of education be brought to bear on overall health strategy whether in services or in manpower development.

A Sound Demographic Base

First, it is necessary to make the politician and his constituency view health as part of a national social contract, in the same category as education. To achieve this it is important to bring the morass of illhealth and its socioeconomic consequences to the attention of decision makers so that they can see clearly the advantages that would attend a well-ordered strategy for HFA. That weak demographic base from which most national governments plan their health services and manpower development must therefore be considerably strengthened. We must know the major killing diseases in the environment, the greatest causes of morbidity, identify the most vulnerable groups in society, the various health-related problems and, most important of all, ascertain for just how many the health services are planned? Answers to these questions appear deceptively easy. They call for painstaking research. Some, such as that on the catchment population, have a strong political flavour and in many a developing country, are easily parried by political parties.

Medical statisticians, community health experts and administrators in institutions can all be solicited by planning divisions of ministries of health to assist in these demographic tasks. This can the lead to the formulation of a local strategy for HFA that would take account of the existing resources and ensure the cooperation of all sectors of health: the ministries, the hospitals and the training institutions. Such collaborative research will also give an insight into the kind of tools needed (in terms of men and materials) to tackle the various problems and how to set about procuring these. It may emerge, for instance that the bulk of personnel needed to control the major killing conditions in a country are not the conventional doctors who have undergone long periods of training, but a lower cadre of health workers, whose main task is undertaken in the rural setting and whose training has a strong "public health and preventive medicine" bias. It may also be clear to all to see that simple, efficiently run, well-spaced health centres are of greater overall benefit than teaching hospitals that cannot deliver effectively because of scant resources, poor instructional facilities and inadequate expertise.

Joint Ministry/Institution Sessions

Quite apart from the obvious advantages of a joint comprehensive demographic appraisal, it is easy to see how both the Ministry and the educational institution can

plan together to tackle the problems highlighted above and can arrange regular sessions together on various subjects bearing upon the health of the nation. It is also possible for a concerned approach to be made to government to provide the necessary wherewithal to execute agreed programmes. Such joint sessions would give invaluable insight to researchers and other academics in health institutions as to how ministries function, rationalize and order their priorities. It would jolt them into reality, particularly with regard to making maximum use of limited and dwindling resources. It would in turn make ministers and ministry officials appreciate better the constraints in the field and seek practical ways to overcome these difficulties.

National Resource Allocations

It is sometimes said, perhaps with some justification, that workers in the health industry are their own worst enemies — in the face of competing claims of various sectors of the national economy, they often end up as poor relations of education, defence, transportation etc. Most blame this on poor presentation of their case in arguing funds, and an intrinsic difficulty in making budget decision-takers appreciate the pervasive influence of health in the overall economy. Both these reasons are partially correct but the one factor everyone knows and few care to admit is that the health ministry is low on the "pecking order" of Cabinet positions in most national governments. Some governments even go so far as to subsume health in a larger ministry of social services. This emphasizes its income-consuming propensity which further alienates it from the more favoured ministries. An area on which research is needed is thus to effectively interpret the resource needs of health, so that it can attract appropriate attention during budgetary allocations, and to quantify the contributions of health to the national economy in a way that can be easily comprehended and acknowledged by governments. This is particularly difficult when one considers that, in most societies, budgetary allocations depend to a large extent on political rather than rational, objective considerations.

Health-related Factors

In the context of the developing world, it is important emphasize the crucial role of such basic facilities as potable water, adequate environmental sanitation (including sewage disposal), good nutrition based on a self-reliant agricultural economy, good roads and easy communication. It is probably true to infer that the provision of these facilities will do far more to guarantee HFA than the establishment of elaborate health centres for the management of preventable illness. The interdependence of these various factors is an important area for educational research, since too many administrators and academics still conceive of them as separate, unrelated entities.

Community Participation

The concept of preventive health maintenance is as yet not fully appreciated by most communities. To them the health sector is important only insofar as there is evidence of illness or in the extreme situation of impending or actual fatality. Com-

munity attitudes to health and illness will therefore need to be researched and rethought. This form of attitudinal research must be extremely difficult to prosecute but is one which would, if successful, prove most rewarding and satisfying.

Personnel

Resistance to change is to not monopoly of the community at large. It is seen in the health professions under the guise of protectionism. Each category of health worker sees little reason to have his training programme overlap with those of others. Each section jealously guards its conventional privileges and is anxious to show how indispensable it is in the successful operation of health care within the community.

Again it is an uphill task to develop the climate of understanding and mutual respect that flows from an acceptance of the principle of functional interdependence. This calls for demonstrable qualities of leadership in the various health institutions and a deliberate removal of the artificial barriers that separate the different disciplines even within the same institution. It demands the subjugation of individual whims of departmental heads to the broader needs of the communities which these institutions were created to serve. Above all it implies a greater sense of commitment and discipline than hitherto been demonstrated by academics in medicine, so that their students can learn more by example than by precept.

APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

RESEARCH APPROACHES

H.G. Pauli

INTRODUCTION

Problems of research in health manpower development can be viewed as the top of an iceberg. The total of the iceberg, then, represents a situation of uncertainty and conflict concerning aims, concepts, and instruments of research in the field of health generally. In this paper it is proposed to view this critical situation in the context of concepts of health which underlie current research. It will then be suggested that such concepts find their expression in the selection of contents and instruments used in health research. From this analysis two paradigmatic research approaches will emerge, characterized by the terms "reductionist" and "holist" respectively. Their implication in the area of health manpower development will be examined. Finally, questions will be raised concerning limitations of the research approach as such in assessing the impact of health manpower on health.

CONCEPTS OF HEALTH

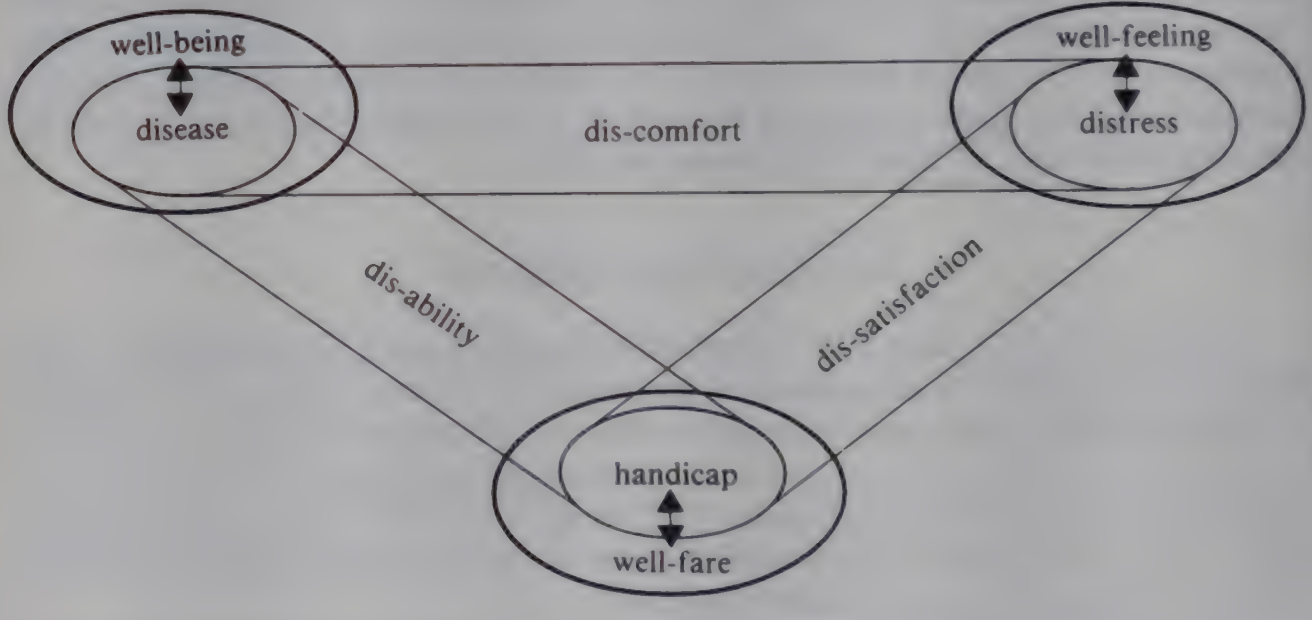
Health for all — what is it, which WHO wants to see a greater amount more equally distributed? The proportion of professional literature dealing with concepts of health has been small, ever since highly effective and efficient principles of disease management have been introduced in modern medicine. More recent publications raising such conceptual issues (Purola, 1972; McKeown, 1976; Engel, 1977; Schaefer, 1979; WHO, 1979) seem to be related to some of the shortcomings emerging in the context of the application of these principles.

Concepts of health appear to be strongly determined by the specific situation of those holding them. Here, the specific situations of those receiving and those administering health care are particularly important. Concerning the latter, one has to consider the socialization and the typical conditions of professional activity of members of the health manpower. They vary widely from circumstances of the medical profession to those of nonmedical health professions, of "nonhealth" professionals and of non-professionals increasingly involved in health care. In the context of research, as will be shown below, the situation of the most professionalized group (in this case the medical profession in the most developed regions) is of primary importance. The educational and other factors contributing to the socialization of this group can be described as oriented towards highly specific (specialized) contents, selected procedures and a high level of technological development (Becker *et al.*,

1963). Professional tasks tend to be defined in a similar specific and fractionated manner (Schipperges *et al.*, 1975). Clients of this group of professionals are then left to select among the services offered by a number of specialists. The problems presented to these specialists tend to be adapted to the nature of these offerings. For example, the phenomenon of "somatization" of complaints encountered in medical practice is considered — in part — as an adaptation of patients to a strongly biomedical orientation of physicians (Rosen *et al.*, 1982).

While a fractionated approach as the one described above was and is a highly successful one in a number of health disturbances, it fails in other areas covering an increasing proportion of situations encountered by those delivering health care. Such situations can be described as multifaceted and highly complex conditions of interaction between the individual organism and its internal and external environment (Purola, 1972). Health can then be conceived of as interrelated systems of balance at the natural, social and mental/cultural level (Fig. I). Criteria for health and its derangements developed at only one of the above mentioned levels and by only one particular group will cover only part of the possible aspects.

mental/cultural domain **Figure I** natural domain



social domain

Fig. I A structure of terms relating to health and its disturbances (Purola & Pauli, 1982). "Disease", in this representation, is used in its restricted (biomedical) sense. This arrangements of terms implies that "disease", distress and handicap can be present on their own. This would be the case under the condition that the "setting" on two of the three levels considered is such that imbalance at these levels does not occur. For example, the "disease" of myopia, with the aid of psychologically and socially acceptable measures — correcting lenses — can be present without distress or handicap. More important than such rather marginal situations is the combined and interrelated imbalance at all three levels. In this representation a special term for this condition does not appear; in the English language the term "illness" seems to describe this concept most closely (Tuckett, 1976).

One of two distinct concepts of health could thus be termed as "reductionist", in the sense that it tends to look at aspects of health, the dimensions of which are reduced to given set of parameters — although it might look at a great number of such aspects. The other concept would then be termed as "holist", trying to describe and analyse phenomena in a multifaceted and multilevel fashion.

With this description no value judgement is implied. It is realized that research in the sense given to it by Western culture and civilization will always include some kind of analytic (and thereby reductionist) processes, while dealing with "total" or "fundamental" truth belongs to the "metaphysical" or religious realm. Research contents and research instruments can merely be selected according to more or less reductionist versus holist orientations.

RESEARCH CONTENTS AND RESEARCH INSTRUMENTS

The nature of research instruments in a reductionist context is essentially specialized and oriented towards measurement of specific phenomena, while a holist approach is concerned with description of phenomena generally assumed to be important. The predominant criteria are then reproducibility/reliability/precision as opposed to validity respectively. The preferred method according to the reductionist attitude is the controlled study as compared with the case study. The controlled study essentially deals with manipulated, often experimental situations, while the case study is concerned with an unaltered real situation. Sampling in the controlled study tends to include a large number of items (individuals, phenomena) with a limited number of variables studied, while a case study intentionally deals with a limited number of items (cases) of which a maximum number of aspects (variables) is included in the sampling. Consequently, generalization in a controlled study is arrived at by statistical abstraction of the data obtained in the manipulated situation and their comparison with analogue data derived from a (nonmanipulated) "control" sample. In the latter, the process of measuring often constitutes a kind of manipulation by itself, impeding the validity of the control situation. In the case study, on the other hand, generalization is derived from the extensive description of several cases. The process of observation and description might or might not interfere with the conditions of the "case".

The information sought in the controlled study has the essentially quantitative feature of an inquiry into measurable cause-effect relations with no primary interest in the subjective views of those providing (researching) or receiving care. The holist attitude on the other hand stresses the understanding of human and social behaviour from the point of view of the ones involved.

The professional background of the researcher in a reductionist setting can be described as highly specialized in a structured and well-defined area of content (organ system, specific technology or method) usually designated as "discipline". Researchers concerned with case studies usually have a more ethnographic or social anthropologist background (Rothman, 1982; Strömbom, 1982).

For the sake of clarity and discrimination, this description stressed typical and extreme aspects of a reductionist and holist approach respectively. Most research

draws on elements from both approaches and many broad research programmes depend on such a combination of views. However, a predominance of reductionist concepts in contemporary health research can be concluded from a tendency:

— to select research aims relevant to the secondary and tertiary (specialistic), rather than to the primary level of health care and to concentrate on ever more minute subaspects of health rather than on general aspects;
— to emphasize problems of urban/industrialized rather than of rural/developing regions; and
— to deal with health disturbing rather than with health restoring or maintaining aspects.

Likewise research instruments are generally concerned with aspects which can unambigously be registered. Precision and reliability seem to be the main criteria for their selection. Hence a reification of views on health and a tendency to concentrate on biological rather than on psychological, social, or cultural dimensions can be observed.

Finally the reductionist model is supported by a wealth of methodological, technological and institutional experience, by an enormous research community, while the holist model, although occupying an important position in the (mostly pre-enlightment) history of sciences (Foucault, 1973), presently lacks rigour, structure, and manpower.

Health professionals — at least in the context of an industrialized society — are thus familiar — if not identifying — with reified, fractionated and residual (defined as absence of derangements) concepts of health. Health for all in a professional perspective then is to be considered as "less of the many un-healths for all".

SPECIFIC ASPECTS OF RESEARCH IN HEALTH MANPOWER DEVELOPMENT

What is the specific position of health manpower within the system of health in general? Fig. II describes a general cybernetic system of balance. An application of this model in the field of health and health care is exemplified in Fig. III. Health manpower can be considered as one element of restoring balance, or in the case of health care delivery, of "coping" with a given problem. From this representation, and assuming a multisectorial concept of health (as represented in Fig. I), the need to include a holist view in health manpower development research becomes evident.

Problems of research in health manpower development are, in the view of the writer, those of research in the general area of health described above. While in the vast field of health many phenomena — hopefully selected primarily from a general view point — demand a highly specified and therefore reductionist approach, results of this type of research in the field of health manpower development have been disappointing. Research in education and training has gained little from a quasi-experimental approach. Which one of two curricula is the "better" one? "Precise" methods such as standardized tests might lead to answers for highly specific questions which hardly contribute to solving the general problem. On the other hand, specific

data might be called for on the basis of extensive descriptions founded on interviews, observation and even participation (Merton *et al.*, 1969; Becker *et al.*, 1963). To take another example, research into patient compliance with health care procedures, such as scoring responses to questionnaires in vast surveys, is liable to fail by definition, as it does not take into account patient compliance, this time with research procedures. Only closeness to the subject investigated by interview or participant observation will disclose relevant aspects of motivation under such circumstances.

Figure II

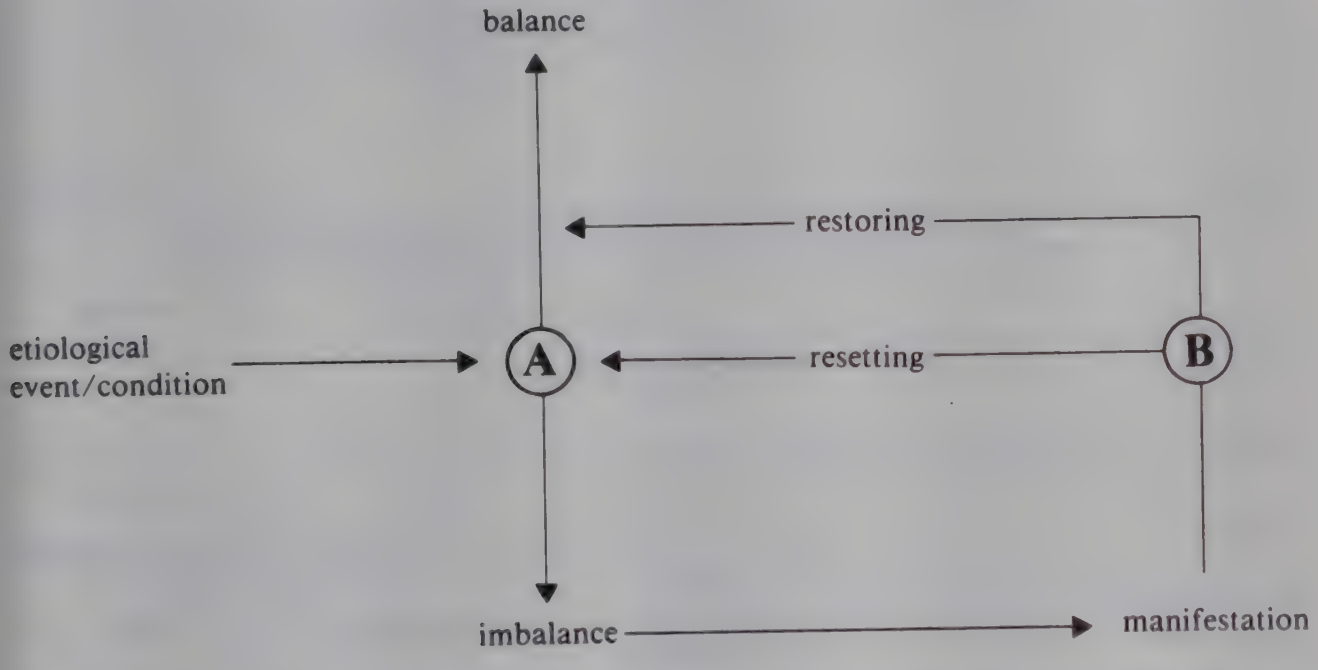


Fig. II General organizational description of a system of balance including disturbing and restoring/maintaining inputs (modified after Purola and Pauli, 1982). The balance – imbalance part of the graph is a shorthand representation of the more complex situation described in Fig. I.
Certain events or conditions potentially leading to a disturbance of the "balance of health" as conceived in Fig. I are evaluated by the thermostat-like mechanism A. This mechanism determines whether the input due to the event or condition in question is of "critical" importance to the "balance of health" of a given individual. The setting of this "thermostat" can depend on a number of conditions at the natural, social or mental/cultural level of this individual.
The input in question might be of no consequence for the state of balance (upward arrow). If, on the other hand, this input proves to be critical (downward arrow), imbalance will become manifest by some kind of reaction of the individual/organism on any of the three level mentioned above. Mechanism B then represents an instance (at an individual or social level) which decides about two types of response to the perceived state of imbalance: resetting of the "thermostat" A or the activation of restoring measures. "Resetting" describes any change within a given individual leading to a new state, under which the original event/condition is no more of critical importance to the balance of health. "Restoring" includes any coping mechanisms on the individual or social level (self-, lay-, professional care).

Figure III

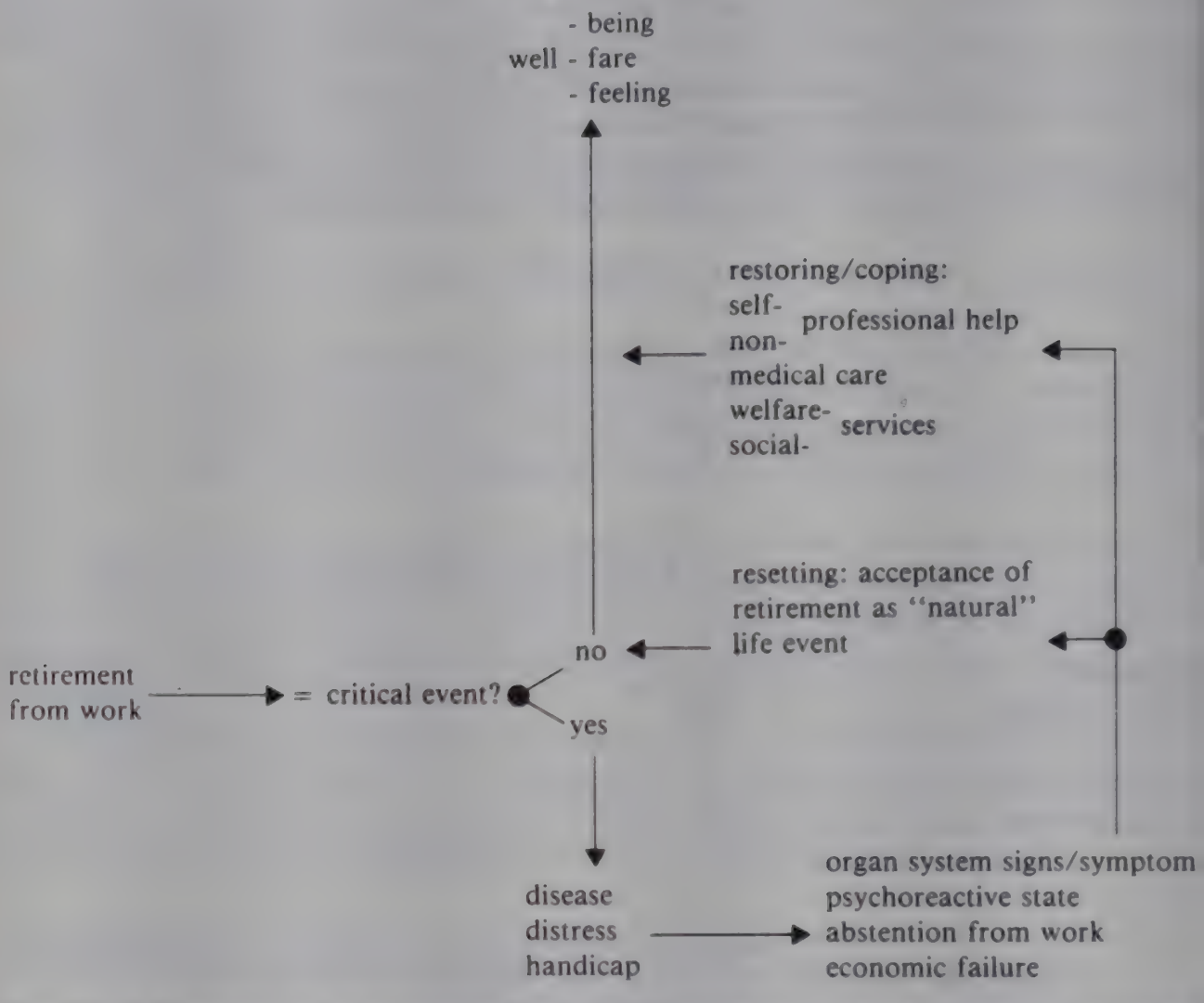


Fig. III A life event, such as retirement from work, might or might not disturb the "balance of health" (see Fig. I), depending on natural, social or mental/cultural conditions under which it takes place. If it leads to imbalance, several categories of manifestations might result. These manifestations in turn might serve as signals triggering either resetting or coping processes.
In order not to complicate the structure of Fig. III a teleological arrangement was chosen. It is to be realized that in reality — among other modifications — coping mechanisms e.g. may exert a disturbing rather than restoring/maintaining function.

OTHER THAN RESEARCH APPROACHES

It is not the topic of this presentation to deal with any but research aspects of health manpower development. However, one should bear in mind that in applying research criteria, be it under a reductionist or holist perspective, one is by necessity concentrating on rational aspects of health and health care and therefore of health manpower activities. Rational aspects in the sense of a Western industrialized culture constitute but one of many traditions of dealing with health and its derangements. It

is estimated that approximately 15% of the world population has at present access to Western type of health care delivery. Within these 15%, the Western rational tradition has accomplished unprecedented successes; however its predominantly reductionist development has led to side effects, deficiencies, and to an uncontrolled escalation of costs. Health for all in the year 2000 cannot possibly mean to expand the present proportion of 15% to 100%. Views of participants of other traditions, of outsiders of our rational/scientific system will have to be considered (Feyerabend, 1980). Where such traditions have a well-documented historical and ethnological background, their outcome should primarily be taken into account, rather than a rational/scientific assessment of their procedures. This should not mean that new non-rational principles and techniques, which tend to proliferate in view of the above-mentioned shortcoming in the Western culture, should not be met by criticism and even scepticism.

ACKNOWLEDGEMENT

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APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

COMPETENCIES REQUIRED OF RESEARCHERS

B. O. Osuntokun

INTRODUCTION

One of the crucial factors for achieving the social revolution in health planning that is necessary for the attainment of Health for All (HFA) by the year 2000 is Health Manpower. As Mahler (1976) pointed out, it is necessary for any society to (a) determine what social and health goals it wishes to attain; (b) identify the health technologies that subserve these social and health goals; (c) select those health technologies that are not merely sound but that it can afford; and (d) have the political will to implement the appropriate health policies, create the necessary mechanisms for formulating health programmes and developing appropriate health care systems to implement them. Implementation can only be carried out if there is adequate and appropriate health manpower, no matter how excellent health plans are. Health policies in turn must be determined by the type of manpower that is and may be made available.

It has been repeatedly pointed out that developing countries cannot afford to base their health manpower on the traditional medical, nursing and "paramedical" training of the affluent industrialized world. It would be necessary in such developing countries, once it has been decided that the goal of health manpower is to serve health programme and service needs, which the countries can afford, that innovatory approaches be considered for the production of appropriate and suitable health manpower. New cadres of health professionals would need to be trained to perform specific duties. How efficient and effective such new cadres are, and society's behavioural attitude to utilization of their services, would need to be evaluated. This will be one of the most important aspects of research in health manpower development (HMD) especially in the developing countries.

COMPETENCIES REQUIRED OF RESEARCHERS

The need for and essence of research in HMD have been discussed in detail in John Bryant's paper (pages 21-39). As far as I know, while innovations in health manpower development are not uncommon, especially in recent times and especially in developing countries, research on these innovations is minimal. There is therefore a great paucity of competent researchers in HMD both in developed and developing countries.

Research in HMD is not attractive for a number of reasons. It is time consuming and the results are not known for a long time. It involves healthy human beings whose cooperation is absolutely essential for any meaningful result. It is unlikely to attract funds in a highly competitive field, *vis-à-vis* biomedical, epidemiological and health services research or target-oriented research dealing with specific diseases. Besides, research in HMD would be meaningful and feasible if there were clear cut and coherent national health manpower policies integrated with health care development.

For effective research in HMD, the competent researcher must be capable of identifying the priorities and ranking them in importance for the country. The problems in HMD which could be tackled by research may vary from country to country depending on the political will and the health policies of the country. For developing, and to some extent developed countries, some of the problems are common and include the following (which are by no means exclusive):

- What quantity, quality, types and levels of competence of health manpower are required for health development and primary health care aimed at total coverage of population?
- What would be the best ways of training such workers — including entry or selection criteria, curricula and course content of training, appropriate skills that need to be acquired, and what are the best ways of evaluating the training?
- What determines the maldistribution of health workers in a country?
- What are the best methods of ensuring that health workers maintain their competence and appropriate skill, especially in a world of rapid change in technology and practice of health care delivery?
- How should the appropriateness and effectiveness of health workers and their acceptability by the community be evaluated?
- What incentives, appropriate career structures and conditions of service are required for efficient utilization of health manpower for health care development?

There are many others, some of which are listed in Dr. Bryant's paper (pages 21 and 33-34).

To illustrate, a number of research projects are carried out in both developing and developed countries which constitute excellent examples of research in HMD. These include comparison of effectiveness of a nurse's decision with a doctor's decision in a primary care delivery setting in the United Kingdom (Moore *et al.*, 1973); effectiveness of physicians' assistants in management of severe diseases including diabetes mellitus and hypertension in the USA and Canada, (Komaroff *et al.*, 1974; Anon, 1975), the value of continuing education among doctors in Canada (Sibley *et al.*, 1982); and the composition of the primary health care team (Wise, 1972). In the developing countries, they include the comparable efficiency of lay women trained for a few months, to that of a doctors in performing tubal ligation in Bangladesh (Chowdhury & Chowdhury, 1975, Harrison, 1979); the comparison of the outcome of different selection criteria for entry to the medical school in Ibadan University, Nigeria (Ayeni, 1972); the value of primary health care by medical auxilliaries in Guatemala (PAHO Advisory Committee on Medical Research, 1973); in Imessi, Nigeria, (Cunningham, 1979); in Jamaica (Alderman *et al.*, 1972, 1973); and in

Karvar, Iran (Ronaghy, 1978); the use of mothers in successful oral hydration treatment in the home in a Punjab village (Kielmann & McCord, 1977); the effectiveness of the use of mobile units in immunization programmes for smallpox and measles, in treatment services directed against trypanosomiasis and meningitis; the provision of child care in rural areas in Sierra Leone, and for malaria control and water sanitation in Botswana (Walsh & Warren, 1979).

Once priorities have been determined, the researchers must have the knowledge of how to provide answers through research. The range of theoretical and practical approaches to research in health manpower development has been considered in some detail in Dr. Bryant's paper and Strömbom's "Alternative methods of HMD research" (1982). They emphasize the phenomenonological (Hippocratic) approach, and the naturalistic approach. More specifically, I consider that retrospective case-control studies, prospective (especially cohort) studies, and the experimental analytical approach would be most frequently used.

In the Canadian (McMaster University) study of the effectiveness of continuing education among doctors, a double blind placebo controlled method was used to assess the effect on delivery of health care by doctors of programmed educational packages: the placebo group did not have access to the educational packages. Assessment, using well-defined criteria, was done blind by nurses who did not know which doctors received the packages. (Incidentally, the design of the study is regarded by many as an excellent paradigm of how such a study should be carried out).

The case study, by a single person of an institution producing health manpower and comparison with previous personal experience was made into a unique and important study of medical education today by an eminent retired physician and educator who re-entered Medical School in New York and went through the whole course leading to a second medical degree 48 years after his first (Eichna, 1980). What he found gravely disturbed him, but the results which he formulated in eight principles that should govern medical education should be compulsive reading to all involved in education of medical doctors. Such an innovatory approach to research in HMD is bound to be extremely rare.

Training of Researchers

From the above, it appears that researchers in HMD must be competent in research methodology in epidemiology, demography, biostatistics, psychology, sociology, behavioural sciences, economics and anthropology. The complicated studies would require a multidisciplinary approach.

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APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

CREDIBILITY AND RELEVANCE OF RESEARCH FINDINGS

Jules J.J. van Dyck

INTRODUCTION

The two main concepts in my contribution are 'credibility' and 'relevance'.

Credibility refers primarily to the significance of knowledge for the different actors in the health field: politicians, planners, managers, educators, health service personnel and last but not least — the users of health services. The acceptance and use of valid knowledge by these actors is dependent on their aspirations, opinions and interest.

Relevance has more to do with the objective aspect of research utilization. Here the question is mainly the following: is research, in our case health manpower development research (HMDR), oriented to and responsive to the real needs. Does it really contribute to coping better with actual or expected undesirable situations in the field of health?

Figure I illustrates how credibility and relevance determine not only the *utilization* of social research in health *policy-making,* but also in health *management and in health education.* These are three interdependent subsystems in what is called health administration. The potential contributions of behavioural or social research in the field of health are indicated within circles in Fig. I.

In what follows the key problem is the interplay of social research and policy making or, stated in the form of a question: How can creative and effective contributions of social research to health policy manking be enhanced?

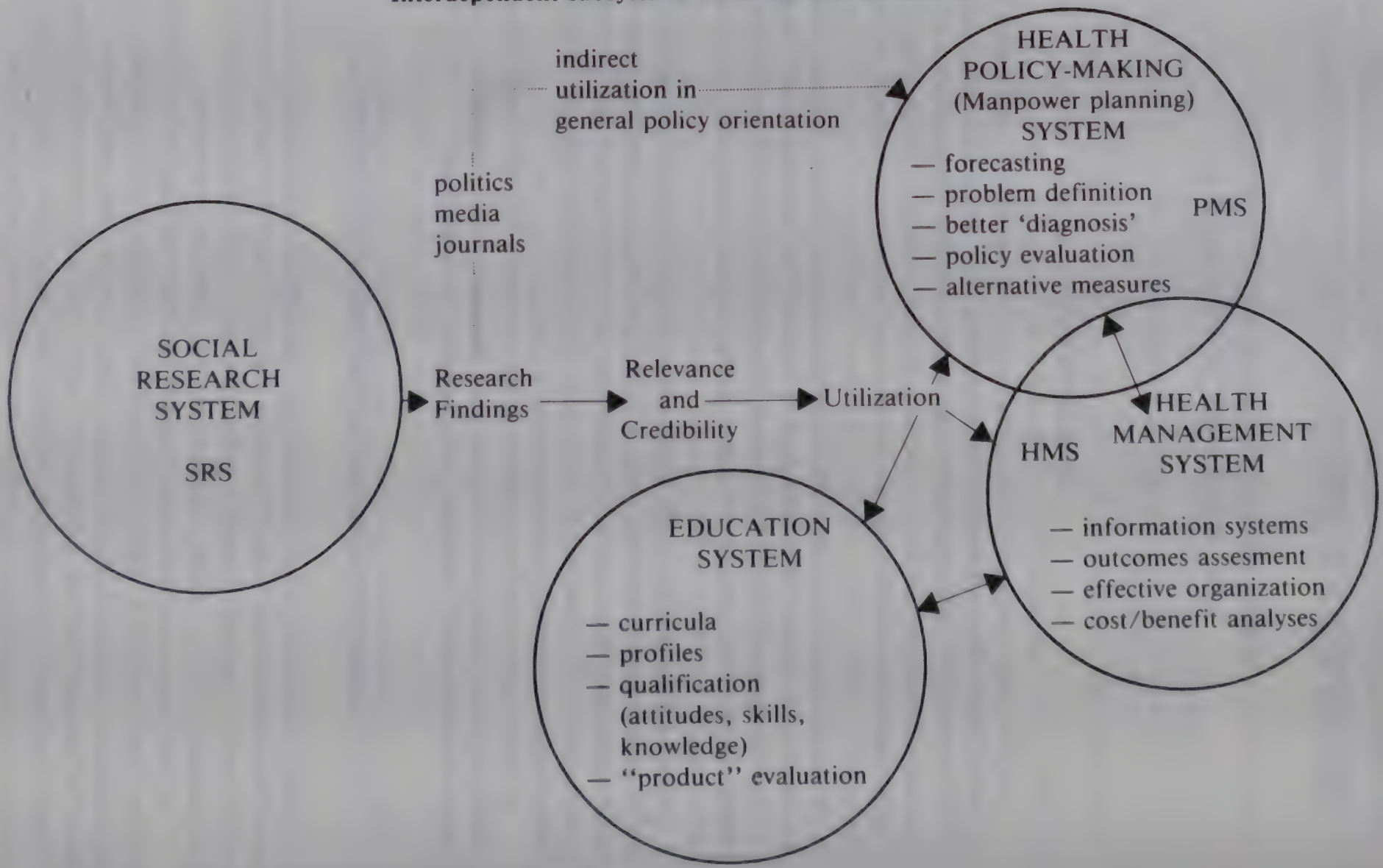
SOME LESSONS FROM THE DUTCH SITUATION

In my country in recent years there has been much criticism of the role and the use of systematic social research in policy making. This holds true for a vast range of policy fields: economic planning, urban planning, social welfare policy, the design and changing of the working environment (i.e. industrial enterprises).

In referring to the Dutch case I realize that I am speaking of a rich country. On the one hand there is a highly developed and specialized policy-making system, in government as well as in private organizations. On the other hand there is an abundance of research institutes and facilities, inside and outside universities. Nevertheless I think that people in developing countries may learn from such an overdeveloped situation as ours definitely is, in terms of the professionalization of policy making.

Figure I

Interdependent subsystems of health administration



What are then main complaints in our continuing debate on the relationship between (social) research and policy making? I mention some: ''researchers use academic freedom as an escape'', ''there is a lack of practical orientation in social research'', ''ineffective use of research resources'', ''a lack of programming in research: too many isolated projects, etc'', ''researchers take problem definitions of policy-makers for granted'', ''policy makers try to use research for the sake of justification, or to postpone action (decisions) for some years''.

Surprisingly enough, little research has been done in the field of health manpower development (HMD) in the Netherlands. This fact must concern us. In that country there has been much talk and discussion (since 1975) about 'new' conceptions of primary health care, about urgent changes in the doctor-patient relationship, about over-production of doctors, about humanization of the patient care, etc., but on the other hand there is a clear 'managerial revolution' going on in the Dutch health administration, along with a rise in policy making and planning at the national and regional level. This fact explains why more and more social research is being carried out on administrative and organizational 'issues' (i.e. cooperation between personnel in primary health care, interorganizational relations between health organizations: hospitals, nursing-homes, etc.). Once a health system has become fully expanded with its own bureaucracy, one apparantly needs organizational research to cope with dysfunctions of that bureaucracy!

This increasing emphasis on health organization instead of on the 'product', i.e. the content and the results of health services, seems rather one-sided and dangerous to me. Health planners and managers appear ready to define health problems as organizational problems.

Is this a way in which they are trying to defend or strengthen their power and control *vis-à-vis* health service professionals?

Social research on HMD in the strict sense of the word, i.e. on rules, quality, behaviour, attitudes, recruitment and careers of health personnel, etc., is still scarce in the Netherlands. We must recognize that in health services, manpower can almost be equated to 'the product' in the quantitative and the quality sense. Moreover in the Dutch situation (i.e. a complex health system still organized mainly along lines of private initiative) the subsystems of health policy making, health management, professional health services and health education tend to become segregated from each other (see Fig. I). I think social research can and must aim at bringing these 'units' togheter, especially in investigating HMD issues.

HEALTH POLICY MAKING: AN 'ARENA'?

Although believing in close cooperation between social researchers, health policy makers, managers and educators, we have to be realistic and face the fact that 'health' can constitute an 'arena', i.e. a network of power relations. In governmental policy making, in the management of a hospital, in coordination on the regional level, etc., several problem-definitions, interests, ideologies clash, as soon as controversial issues are to be discussed. This is true for health budget reduction (in the Western

countries), for restructuring health services (from the expensive hospital level to the less expensive primary health care level), for improvement of quality via a better check on doctors, and for the (central?) role of the general practitioner in community-oriented health care. In such cases the decision-making process acquires political characteristics and comes to resemble a 'garbage can' — as some cynical authors labelled it.

Processes of bargaining and coalitions predominate over rational analysis of facts and alternatives (plans, decisions, etc.). Therefore a first conclusion to be drawn is that social research should primarly play a critical and objective role in the 'arenas' of health policy making and management. This is particularly important where the development of health system (e.g. Nigeria) or the reconstruction of a system (Western Europe) has to be realized with scanty financial resources.

THE PROCESS OF PROBLEM DEFINITION AND FORMULATION IN HEALTH POLICY MAKING (see Fig. II)

The main contribution of social research is relating health manpower factors to (primary) health care conceptions and objectives. This will essentially be an evaluation, a confrontation. I distinguish three types of comparison:

— the comparison of the user's needs or expectations with the results of existing health services;
— the comparison of results with costs; and
— the comparison of actual health services, actual health systems, etc., with forecasts of long-term economic and social development.

Research can help to make gaps and discrepancies explicit. Awareness of gaps between supply and demand, between (medical) benefits and costs, and between present practice and future needs and possibilities, is the very starting point for innovation and reorientation in policy making.

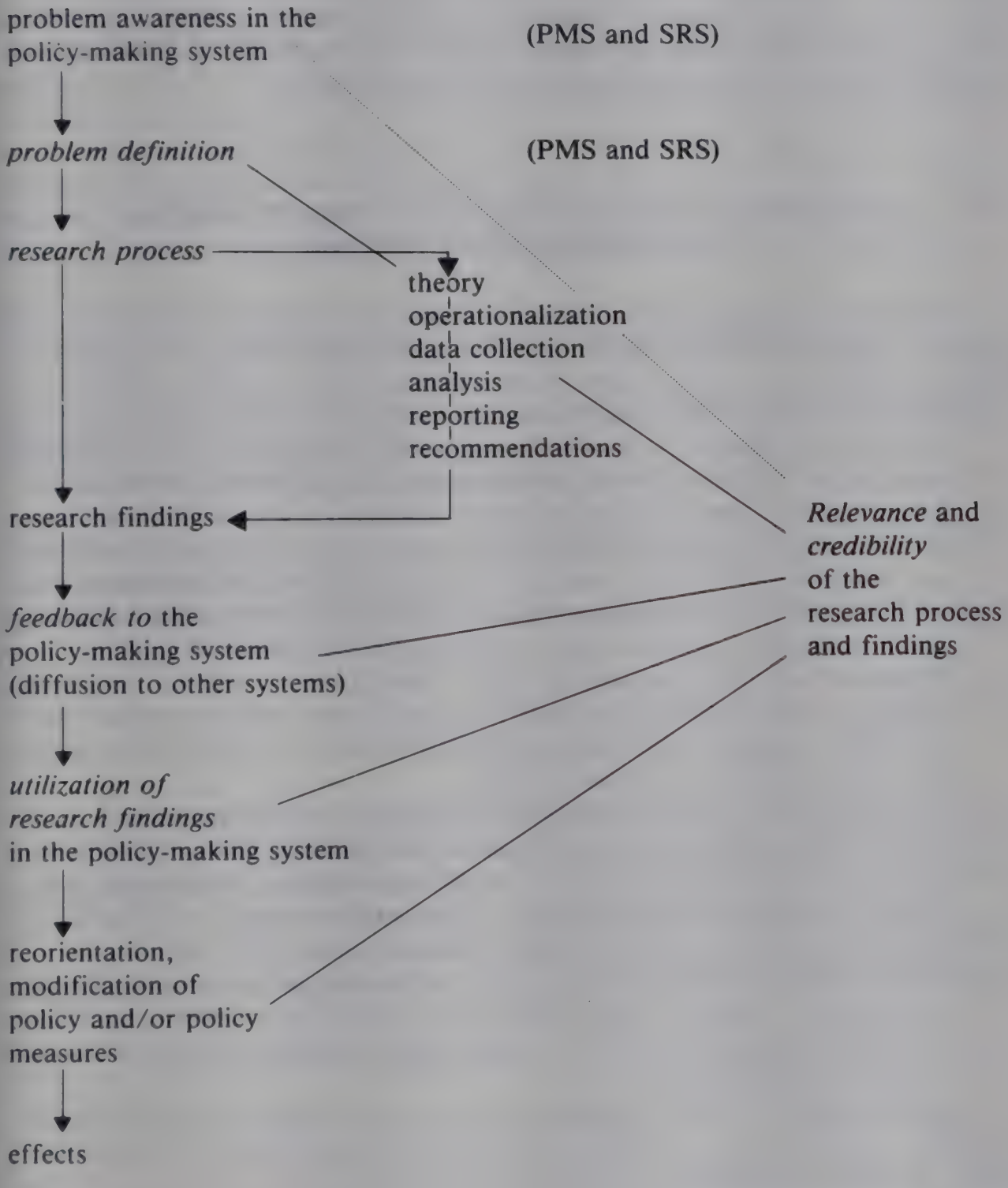
PROSPECTIVE APPROACH IN HEALTH POLICY MAKING AND MANAGEMENT

Social research can stimulate a prospective approach in health policy making. The method of formulation of alternative scenarios seems especially useful for both the development and the reconstruction of health system! Whatever the field of policy making there is, an oscillation between the extremes of comprehensive long-term planning (as if all relevant influencing factors and developments could *a priori* be known) and "muddling through" as Lindblom once labelled it, that is, making small steps, minor changes, and reacting to problems on an *ad hoc* basis. In the case of health policy making the last approach would signify a linear expansion of the actual health system.

With the aid of scenario-formulation it has been proved in industry, in social policy, etc., that long-term data (forecasts of an uncertain future) can be combined

Figure II

Policy making and research



with problem solving and adaption in the short run, in one consistent policy-making approach. Research can lay the base for *health scenarios,* in which primary health care is being approached as rationally as possible, as one of the dimensions of community development. Such scenarios are empirically based on epidemiological, demographic and socioeconomic data, but have at the same time a normative component. They deal not only with probable or possible futures, i.e. concerning health-for-all in a given country, but also with 'desirable' futures. In this way political and scientific reasoning go hand-in-hand and become synthesized.

CHARACTERISTICS OF THE HEALTH POLICY MAKING AND MANAGEMENT SYSTEM

If research can enhance the utilization of valid knowledge in policy making, it is very much dependent on the structure and functioning of the health policy system, at both the public and the private level. Three points seem to me of importance:

— Is health policy making firmly connected with policy-making endeavours in such fields as housing, economic development, or education and welfare? In many Western countries health policy making is not sufficiently cross-sectoral. Integral or cross-sectoral planning by government is of paramount importance in developing countries. Here one must not go the very long and inefficient way followed in Western countries. That is the long way of steadily refining sectoral specialization in policy making. Deadlocks of over-differentiation in government have brought us back to integrative (intersectoral) thinking.

— Openness and responsiveness of policy making to the public, via official politics and the many forms of direct communication with the people. This is sometimes called participation by the public (the users, the clients, the people in a community, etc.) in policy making.
Regard should be paid to the often dominant role of health professionals, individuals and professional associations in health policy making. Participation of the users could be an important counterbalancing and objectifying power. Research projects on health needs, health services results, etc., should be designed on this principle of openness and participation.

— Professionalism and bureaucracy are wellknown processes in large scale organizations. While to some extent they can be very productive and functional, much has been written in organizational sociology about the 'vicious circles' of these processes.

Professionalism is often particularly strong in the health education system. Paralyzing bureaucracy is a dangerous force in the governmental policy-making system. In health management and health service systems both processes are found once the scale of operations has become large (e.g. in a hospital). The essence of professionalism is the predominance of ideas, technology and interests (financial, autonomy) of the supplies, i.e. the professionals, over the needs and demands of the citizens or clients.

The unintended consequences or dysfunctions of bureaucracy become manifest when means (procedure, hierarchy, status and prestige of one's position, etc.) become more important than goals. In this situation most of the attention of top managers is paid to a smooth internal functioning of the apparatus, to the elimination of conflict between departments (by applying new rules!), and to negative enforcement of new disturbing initiatives (by tougher supervision), etc.

Especially in the stage of problem definition (see Fig. II) researchers should investigate carefully if the formulation of the research aims is not biased by professional or bureaucratic definitions of the situation, which in their turn are determined by vested interests. The same holds for the utilization of research findings in the policy-making system. Researchers should make as many explicit recommendations as possible and insist on the freedom to publish them outside the inner circle of policy makers. This will encourage reorientation and modification of existing policies.

BEHAVIOUR OF SOCIAL RESEARCHERS

Some insight into factors in the researchers' approach may enhance the effectiveness of research in policy making:

— social researchers should use empirically grounded theory, and not formal or 'grand' theories;
— they should aim at reliable empirical data-collecting, not at methodological sophistication; and
— qualitative methods should also have an important place, especially experiments and case studies.

CONCLUSION

A final conclusion concerning the relationship of policy makers and researchers is that there should be collaborative analysis in most of the stages of the policy-making process. This collaborative but critical partnership of social reserachers with policy makers, managers, professionals, and even users is sketched in Fig. II.

In my view this collaboration is a rather general but fundamental philosophy needed to enhance the credibility and relevance of research in health policy making.

APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

APPROACHES OF VARIOUS DISCIPLINES

W.A. Hassouna

INTRODUCTION

The achievement of Health for All by the Year 2000 (HFA 2000) has been adopted as a goal by all Member States of the World Health Organization. The main challenge to achieve this goal depends on the ability of the community or nation to attain and sustain a level of health that will permit them to lead a socially and economically productive life. Effective and efficient development planning and management of existing and potential health resources is central, and health manpower development is crucial for achieving HFA 2000's objectives through primary health care (PHC).

The adoption of PHC as the vehicle to achieve HFA 2000 requires a radical change from the classical technocratic health-care approach which emphasizes professional values, to a developmental health-care approach that recognizes community health-care potentials and emphasizes community health needs. the main thrust of this developmental approach is to augment existing health resources and maximize their impact through three main approaches:

— coordination of intersectoral resources;
— development of appropriate technology; and
— enhancement of community involvement.

New priorities will emerge and new skills and attitudes will be required to face the new challenges. Reorientation of existing health workers, especially professionals, to support the new priorities becomes essential, and the need to develop new types of health workers may arise. In addition, a shift from a one man show to a health team becomes mandatory. Thus, health manpower development (HMD) based on extrapolation of the existing situation is doomed to fail and the entire process of HMD with its various components (i.e., recruitment, initial and continuing education, training and deployment), should be reconsidered within the context of PHC.

THE NEED FOR HMD RESEARCH

The implementation of the new approach requires formulation of new policies and strategies for the production and management of HMD. Research becomes an indispensible tool to guide the process of HMD at its different stages and various deci-

sion levels to face the new challenges and efficiently and effectively meet the changing community health care needs in order to improve health status. Figure I shows the areas where research in HMD is needed.

Figure I

HMD RESEARCH FIELDS

DECISION LEVELS	HMD PROCESS				
	Recruitment	Education	Training	Utilization	Impact
Policy					
Strategy					
Planning					
Implementation					
Evaluation					

This type of research differs from the classical, natural sciences, monolithic, experimental type of research, since it deals with complex social problems of human behaviour (multivariate) whose outcome is highly unpredictable and to which the experimental model cannot be applied.

Research in HMD is basically action-oriented; it addresses itself to specific concrete problems. It immanitates from the socioeconomic, cultural and political realities of the interface between health care delivery (including its systems and providers) and the community needs/demands complex as reflected in actual treatment-seeking behaviour, and utilization and outcome of the health care provided.

The following definition of HMD research was adopted by the WHO Regional Office for Europe Consultative Group, Prague, 28 September — 1 October 1981: "Any appropriate process of collection, evaluation and interpretation of information in relation to defined purpose concerned with the relationship between health manpower development and the improvement of health".

APPROACHES TO HMD RESEARCH

Given the nature of the HMD process, it is clear research approaches used in natural science are not appropriate for this type of research. A variety of approaches have been identified in the literature which could be listed as follows:

(1) Case studies.
(2) Surveys.
(3) Ethnographic research.
(4) Comparative experiments.
(5) Philosophical/historical inquiries.
(6) Quasi-experimental research.

In selecting research approaches or methodologies for HMD research, the following criteria are suggested:

1. Relevance to the nature of the HMD problem under investigation.
2. Ability to cope with the multifaceted (multidisciplinary) nature of the problem(s) under consideration.
3. Adherence within reasonable limits and according to circumstances and the nature of the problem to the scientific principles of reliability, validity, and representativeness of data.
4. Produces practical results (solutions) within the prevailing time and cost constraints.

CONSTRAINTS TO HMD RESEARCH

The adoption of the previously mentioned criteria in the selection of the appropriate approaches and methodologies for HMD problems poses a variety of constraints which face those concerned with the development of this fairly new area of HMD research. Again, available literature in this field has already dealt with constraints such as:

1. Lack of an appropriate theoretical framework against which various hypotheses could be tested.
2. Lack of interested and qualified researchers in this area mainly for the following reasons:
   — the relative newness of the field;
   — lack of training in it;
   — necessity to think in an interdisciplinary manner and work in teams rather than individually; and
   — low prestige and rewards.
3. Resistence by conventionally trained health personnel (health providers/bureaucracy).
4. Inability to meet the time and cost constraints usually demanded by decision makers; The need for quick, clean and cost-effective methods to provide timely answers at reasonable costs to decision makers, the main consumers of this type of research.

5. Lack of understanding of organizing and management of this type of research.
6. Over-concentration on micro-level problems to achieve incremental managerial improvements and tendency to deal with problems within the level of technical skills of one person (usually health professional) rather than multidisciplinary teams of health professionals and social scientists. The objectives of such research is usually to ease bottle-necks rather than dealing with the macro-level issues to provide decision makers with necessary information to develop alternative policies and strategies.

The above discussion helps to bring within one single perspective the different stages of the HMD process and the various levels to which research can contribute to clarify issues and provide alternatives for decision making. Yet, while presenting this array of approaches and identifying the various types of constraints carries the message that research in HMD utilizes a variety of approaches and methods from which the researcher should select what is appropriate for the problem he or she is investigating and highlights expected constraints; it does not explicity deal with attitudinal and behavioural characteristics (traits) which should be adopted by researchers in this field.

To think in an interdisciplinary way requires an attitude of appreciation of the contribution of other disciplines and of researchers belonging to these disciplines.

To adopt a team approach requires an attitude of cooperation and tolerance, and willingness to play subordinate roles to foster the overall objectives of the research, even if it requires sacrifice of personal interests.

To involve the community providers (including the "system" and bureaucracy), and consumers, in the research process requires an attitude of listening to, and appreciating the points of view expressed by laymen or women. It requires an attitude of empathy and understanding.

The acquisition of the above mentioned attitudes and behaviour patterns can only be developed by training and by living the experience.

ASSESSMENT OF HEALTH COVERAGE: A POINT OF DEPARTURE FOR HMD RESEARCH

In the following paragraphs, I shall try to lay down a practical approach to an HMD research programme. I am assuming a country committed to HFA for the year 2000 through PHC and seeking to embark on developing new policies, strategies and plans for HMD in order to achieve its desired health objectives.

Assessment of the existing overall health coverage

The survey approach, coupled with intensive probing interviews and observations on site, is most appropriate. The research design should try to answer a number of questions of which the following provides a sample:

— How do people perceive their health problems? (i.e. what do they define as problematic?)

- What do people do when they feel sick? (e.g. help themselves, resort to health care providers — formal, informal, traditional, modern — and why and specifically for what?
- Where do people go to seek treatment — government, public, private?
- How do people perceive the availability, acceptability, and accessability of various health care providers (systems) where availability, acceptability and accessibility are defined in terms of social, economic and cultural factors.
- How do providers perceive community health needs/problems?
- Who provides PHC to the community?
- What is the level of PHC providers' knowledge about attitudes, and actual practices towards the people whom they are supposed to serve?
- What is the nature and the level of technology used by various health care systems at the PHC level?
- What is the nature and capability of supporative services to PHC?
- What are the main managerial problems of PHC delivery as seen by the providers and the consumers?
- What is the nature and level of community involvement in PHC?
- What is the nature and level of intersectorial cooperation in PHC?

General information will help to identify gaps and shortcomings in policy strategies and planning of HMD, as well as microlevel managerial problems that may require further research.

Health Service Coverage Study

In order to illustrate the above points, I would like to present the main conclusions of the "Three-country health services coverage study" sponsored by the WHO Regional Office for the Eastern Mediterranean and implemented by the Ministries of Health in the State of Bahrain, the Arab Republic of Egypt and the Yemen Arab Republic through the Health Services Research Group of the Institute of National Planning, with the author of this paper as the Principal Investigator.

Main Conclusions:

1. The study confirmed that while the three countries are committed to a policy of total coverage, their present strategy emphasizes physical rather than functional coverage.
2. Self-care supported by the informal health system including traditional healers was used in Bahrain, Egypt and Yemen. Pharmacies in Egypt and medicine shops in Yemen are still the major sources of PHC to most people in the three countries except for immunization for which they resort to the government health facilities due to awareness or to avoid penalties.
3. Mothers use basic health facilities more for their children than for themselves.
4. Most of the people perceive children's sickness as less serious and hence tend to use self-care for relatively long periods before they resort to the formal health system, which may result in severe complications or the premature death of a child.

5. More people in Bahrain tend to use the government health facilities at a much earlier stage than in Egypt or Yemen. This may be due to the relatively high accessibility of the health centres and the home visiting programme by the public health nurses.
6. The use of expatriate health personnel to staff community level health facilities alleviates pressures caused by lack of sufficient national health manpower in the short run. However, in the long run, a policy of reliance on expatriate health professionals is not advisable because of the social and economic costs implicit in such a policy. Hence emphasis on training country nationals should be a top manpower development priority.
7. In all three countries, health professionals' peception of low utilization of basic health services by the people were almost identical and emphasized: lack of health awareness, overcrowded health facilities with long waiting times, and unnecessary referrals (lack of specialized services, drugs, or laboratory investigations).
8. In all three countries, people's perception of low utilization of basic health facilities was due to inadequate care. Over-referral to bigger health centres or Salmanyia Hospital was emphasized in Bahrain; arrogance, irregular attendance, absenteeism, demand for gratuities by health personnel in Egypt; and inaccessibility especially in cases or referral to hospitals in Yemen.
9. Rural services are generally poor in all three countries, being irregular or totally absent. They are provided mostly by health personnel, almost without any community involvement, and tend to extend the functions of the health centre as the provider of care to the homes rather than promoting and improving self-care potentials within community.
10. Community participation in the provision and management of health services is generally lacking except for a few experimental cases.
11. The source of primary health care as essential and practical care provided at an affordable cost to the people, is by and large catered for by the people themselves, supported by the informal health system.
12. The perceived under-utilization of basic health services in the three countries reflects the inability of the formal system to compete with the informal system which is capable of catering for the perceived needs of the people within their cultural, social and economic context and saves them the troubles of dealing with the formal system.
13. The reluctance of the formal system to recognize the critical role which could be played by the people's informal healing system is a real obstable in achieving HFA 2000 through effective PHC coverage The common strategy to overcome this obstacle through expansion of physician/nurse staffed network of health facilities, promotion of health education, and promulgation of legislation to outlaw the informal system, have mostly failed in the last 30 years.
14. The relatively high infant mortality rates in the three countries highlight the need for a more effective preventive role by the formal health system. This can only be achieved by developing a mechanism that ensures more coordina-

tion with other sectors, e.g. public works, education, etc., in which the Ministry of Health plays a key role.

15. All three countries suffer from varying degrees of inefficient management of their formal health system as evidenced by the referral issue and in the case of Egypt the attendance and gratuity issue.

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APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

REVIEW OF PRESENT FOCUS AND MAJOR ACTIVITIES

Rebecca Bergman

INTRODUCTION

The introductory document prepared for this conference defined health manpower development (HMD) research as a "disciplined inquiry which presents arguments and evidence that can be examined and are relevant to present or future health manpower development activities". The subjects areas include policy formation, planning, training, deployment and use of personnel. Integrated into HMD research are economic, demographic, sociocultural and other related sciences.

This comprehensive goal-oriented approach, unfettered by formalistic limitations, is refreshing and practical, and should stimulate researchers to apply their efforts and skills to the field of HMD. However, the scope of the above definition made the task of preparing a paper on a review of the present focus and major activities of research in HMD, overwhelming and complex. Of necessity, a decision was made to concentrate mainly on two aspects, training and utilization of manpower.

Material for the review was gathered from many sources. WHO publications were used extensively, particularly the book *Health Manpower Planning* (Hall & Mejia, 1978), which provides guides to methodology for HMD research, illustrated by examples from each area. Another major reference was materials from the International Development Research Center, Canada. (IDRC) which has focused on developing countries for the past decade.

SCOPE OF HMD RESEARCH

The International Development Research Center (IRDC), published eight volumes (1975-1981) of annotated bibliography on low-cost rural health manpower planning. They cover 5600 items which were published between 1965-1980, and include conceptual articles, reports of experiences and research at various levels of sophistication. A special section of each is devoted to "Formal evaluative studies".

These reports were categorized into seven major topic areas: health manpower, organization and administration, planning, geographical distribution of health services, financial aspects, cultural aspects and a group of clinical content topics including epidemiology, family planning, nutrition, maternal and child health. Although there is considerable overlap — for example a study on planning will probably also relate to finance and manpower — the distribution by focus of the studies

shows some interesting trends (Table 1). Over half of the reports fall into the category of clinical areas, and one-sixth into organization and planning. Geographical distribution of health services and financial aspects — both of which are central problems in primary health care, received comparatively little attention. The small number of geographical studies may be due to logistic problems such as the scope of data and extensive resources needed for reliable studies.

Table 1. Formal evaluative studies on HMD in the 8 volumes of Salus (IDRC)

Area / Volume	I	II	III	IV	V	VI	VII	VIII	Total	% of Total
Health manpower	12	12	13	6	13	23	14	17	110	9
Organization & administration	43	27	25	19	26	22	24	18	204	16
Planning	7	10	6	2	5	11	7	7	55	4
Geographical distribution of health services	6	2	7	8	4	5	3	9	44	4
Financial aspects	1	3	1	9	7	9	5	11	46	4
Cultural aspects	1	17	11	15	10	2	13	21	90	7
Epidemiology, family planning, nutrition	27	23	72	79	43	98	190	162	694	56
Total	**97**	**94**	**135**	**138**	**108**	**170**	**256**	**245**	**1243**	**100**

Research of financial aspects requires the specific knowledge and interest of community-oriented economists; and not too many can be found in health research. There may also be reluctance to try to measure health care in terms of money, particularly as related to quality of life, prevention of illness, disability and death.

DESIGN AND METHODOLOGY

The HMD research reviewed was international, national or local. The international studies, which need extensive funding and coordination, are few in number. Most are sponsored and directed by international organizations such as WHO. An example of a recently published international study is the WHO publication of physicians and nurses (Mejia *et al.*, 1979) which grew out of concern for the brain drain of trained personnel from developing countries.

It is generally accepted that when possible national HMD research should be comprehensive in nature — covering manpower planning, production and management. It should review policies and constraints, population health care needs translated into manpower requirements, available and potential resources of manpower educational programmes, distribution, utilization, and programmes outcomes. Such major studies are dependent on the availability of considerable human and material resources, both of which are usually in short supply, particularly in developing countries.

An alternative to comprehensive studies, is research limited to a specific aspect of HMD, such as an examination of the supply of one or more categories of workers, assessment of the health care needs of a specific population or evaluation of an educational or service programme. Most of the studies found in the literature review were limited to a specific group of workers, consumers, or programmes.

The studies of HMD in PHC were mostly descriptive, using the phenomenonological orientation described by Dr Bryant in his conference paper (page 31). Unfortunately, few of the programmes had a built-in evaluation, even of a subjective nature.

Following Strömbom's categorization of methodology, the case study was the predominant method. Published statistics or estimates of epidemiological parameters were used for background data. Sample surveys were the method of choice in many of the national studies. Experimental controlled studies were the exception, and were used more frequently in educational than in service research. Quasi-experimental methods were found to a limited degree. For example the comparison of health status of similar communities using different programmes.

The literature review shows that many HMD studies were done in Asia, Africa and South America by national and international teams. An important development of the last decade is the priority given by developing countries to locally-oriented research in the fields of primary health care (PHC) and HMD. As stated in a book of the WHO Regional Office for Africa (AFRO, 1978) — *"Health for the people by the people"*: "Technical assistance in the past was seen in terms of a moat to be crossed by the developing countries, their example being models invented by developed countries... If African countries wish to develop realistically they must rely on their own resources... and forge new links with universities, scientific institutions and research centres and other developing countries... The African population should make ordered and methodical use of experience and experiment in their own unique social, technical and health context". The publication further states that emphasis must be

given to the development of appropriate technology and training of community health workers.

An European consultative group discussed the "crucial relationship between research for HMD and improvement in the health of the people." (EURO, 1982). The report stated that "most research is not related to the major challenges for health professionals in the future". Although considerable research had been done, it did not meet the needs. Areas which require research included: identifying problems at the local level; estimating needs for health manpower for the future with consideration of new roles; essential competencies of PHC manpower; content and method of preparing such manpower; attitudes towards accepting responsibility for one's own health; relationships between education, service and the health of the community etc.

REVIEW OF SELECTED TOPICS IN HMD RESEARCH

Six topics were selected for further review: comprehensive studies, auxiliaries, midwives and traditional birth attendants, physician's assistants, nurses, physicians and dentists. Major findings of several studies are reported in each section.

Comprehensive Studies

Comprehensive national studies, although few in number, have made an important contribution to HMD knowledge and research technology. These projects have developed methodologies and tools which can be adapted (not adopted) by other countries. The findings are being used as comparative data and in some cases as standards for preparation and utilization of manpower.

An example of a comprehensive study is the three year Colombian Ministry of Public health project (Paredes-Manrique & Agualimpia, 1972). It included an inventory of health facilities, manpower, educational institutions, population census, and vital and morbidity statistics. It also dealt with satisfactions and frustrations of practice.

An earlier study by Taylor and others (1968) on HMD planning in Turkey examined similar aspects. The recommendations included: setting health priorities, introducing administrative changes, improvement of working conditions, and revision of the training programmes.

The 1973 Nepal HMD research project (Shah *et al.*, 1978) was conducted in three districts of Nepal. Methodology included the study of health facilities, personnel and a household health need and utilization survey. Major findings revealed a high level of untreated morbidity; the extensive use of traditional healers; that 70% of the need for care was preventable; and that health personnel were preoccupied with curative care.

A comprehensive operational research was initiated in 1972 in the province of Gabrova, Bulgaria. The 20-year model, a systematic study of needs and resources was operationalized into an ongoing programme of production, control and evaluation which is then fed back into further development of the model (Sokolov *et al.*, 1980).

Other published comprehensive studies were carried out in Taiwan (Baker & Perlman, 1967) and Peru (Hall, 1969). Popov (1971) describes the methodology used for comprehensive HMD studies in the USSR.

Auxiliaries

A major focus of HMD research has been on the preparation, utilization and effectiveness of paid or volunteer auxiliary community health workers. The vast unmet health needs have stimulated an organized attempt to provide primary health care for all, with emphasis on rural areas. In many countries the only realistic short-term resource was auxiliary level workers. In other cases, auxiliaries were chosen in preference to better prepared workers, such as nurses and midwives, for economic, political, or other reasons.

In Iran morbidity and fertility rates in villages with trained workers were compared with control villages that did not have trained workers. During a period of 15 months the infant mortality rate was 64 in the experimental programme, and 128 in the control village, crude death rate 10 and 17, and crude birth rate 40 and 45.

In Colombia a group of 30 emergency psychiatric patients were treated by specially trained auxiliary nurses. A second group were cared for by interns and residents in a traditional medical service. The first group experienced a greater decrease in symptoms; there was no difference in patients' attitudes to the two services (Climent *et al.*, 1978).

A Guatemala study showed that primary care delivered by auxiliaries was 75% less costly than service staffed by doctors. The mistake rate was 5% and this was reduced to 1% with the introduction of weekly supervision sessions. (PAHO, 1973).

A study in Colombia of a method of instruction for aids on health promotion found that effectiveness of programmed learning was higher than traditional teaching methods (de Jaimes & Rueda, 1977).

A formal evaluation of a training programme for family workers in Botswana showed a high drop-out rate of graduates. The researchers recommended that recruits should be mature mothers, with primary education, who were endorsed by their village. They should receive a month's experience before the course, then attend a flexible training programme followed by supervision and periodic refresher courses (Cook, 1973).

The research on auxiliaries has primarily been done in developing countries. In many situations the alternative to using minimally trained aids was to have no care. In general the studies have shown that this group working in PHC programmes can help fill an important gap in the health system. Whether this is a desirable plan, when better prepared manpower is or can be available, is a question that has not yet been answered by objective research; for inherent in this issue are questions of quality, cost, philosophy of care and political pressures.

Midwives and Traditional Birth Attendants

Trained and traditional midwives are the major providers of care in the area of maternal and child care. In some countries, usually those with the high maternal and infant morbidity and mortality rates, up to 80% of the deliveries are done by traditional birth attendants (TBA). In several of these countries programmes were introduced to give some training and supervision to TBAs, usually as a stop-gap measure until trained midwives and nurses could be prepared and employed.

An extensive project in the Philippines (Mangay-Angara, 1977) found that 75% of the births were assisted by traditional birth attendants or "hilots". In order to utilize this community-acceptable resource with greater safety, nurses conducted a 12-week course with small groups of hilots, and provided them with midwifery kits. As a result, many more hilots are now registered, supervized and have extended their role to include family planning, nutrition and other aspects of PHC. Neonatal tetanus was greatly reduced. However, the research also found weaknesses in the Hilot Service: they continued some harmful practices, failed to make needed referrals at an early stage, and did not report all births.

An evaluation of the performance of a three-week residential course for TBAs in Sierra Leone showed that they often reverted to previous practices. (Mangay-Maglacas & Pizurki, 1981).

In Malaysia, it was discovered that trained midwives were meeting with resistance from the traditional birth attendants (Chen, 1977). Complementary roles were defined, in which the two work together. In a five-year period the coverage of births by trained midwives rose from 35% to 62%.

A report of TBAs in seven countries noted that research was urgently needed on the availability of TBAs, their impact on the health of women and children, and the changes in practice following training (Mangay-Maglacas & Pizurki, 1981).

Physican's Assistant

Workers are prepared in the USA as physician's assistants to work with doctors in their practice or to substitute for them in depressed areas. These assistants are usually graduates of a 3 to 4-year university programme. There is much controversy about the desirability of introducing this new category of health providers who are neither doctors nor nurses, and who reduce the direct contact between doctor and patient, and between doctor and nurse.

Fine (1977) followed up graduates of the University of Colorado, Child Health Associate programme. He concluded that they could provide primary care to over 90% of the ambulatory paediatric patients without direct physician supervision. The study also showed that their roles and skills were acceptable to the patient. Another USA study (Simborg *et al.*, 1978) found the non-physician superior to the physician in some aspects of primary care practice: the non-physician identified more signs and symptoms, used more non-drug therapies, and did more follow-up.

A second type of physicians' assistants called health officers, post-orderlies etc., are trained in developing countries. The focus of their educational programme and assignments is environmental health and PHC, including first level diagnosis and treatment.

The 2-year educational programme for post-orderlies in Papua New Guinea, covered a content dealing with preventive community programmes and individual primary care. They emphasized the practical aspects in the students' training (Papua New Guinea, 1972).

In Malawi, a study found that medical assistants handled 66% of the case-load, giving about three minutes to each patient. The report states that even if sufficient physicians were available, assistants could fulfil an important role in preventive services (Malawi, 1970).

Nurses — Extended Role

The professional nurse is considered by many as the key health worker in primary health care. Nurses are educated in both health care promotion and treatment of illness. They are concerned with the family and community as well as the individual.

A World Health Organization Expert Committee (1974) described the expanded role of the nurse as follows:

> "Perhaps the most dramatic change in the roles and functions of community health nurses will be seen in the additional diagnostic and therapeutic responsibilities required of them. First, they will be expected to teach primary health workers many of the functions traditionally performed by nurses and guide these new personnel in case-finding, disease prevention, patient and family care, community programme development, health education and curative and related functions. An even more demanding responsibility of the community nurse will be the fulfilment of roles usually ascribed to general medical practioners. These include examining the sick and disabled, determining the source of the problems presented, and treating acute conditions, as well as the major prevalent diseases in the community. As the nurse becomes more competent in these and associated nursing skills, her role as teacher, supporter, and consultant of the primary health worker will also expand".

The literature reports many experiences in developing countries but few research projects. Most of the studies to evaluate the effectiveness of the nurse in primary care were done in developed countries. Silver and Hecker (1970) reviewed the work of paediatric nurse practitioners in the USA. The found that the nurses could independantly manage 71% of the cases, consulted a physician on 11%, and referred only 8% for care. An opinion survey showed high parent satisfaction.

A community-based centre for family health services staffed by nurse practitioners was compared with a traditional physician-led neighbourhood health centre. The overall ratings were slightly higher in the nurse practitioner service, and it was far superior in assessment of children and in family planning. In this clinic the clients ex-

hibited more health-oriented knowledge and behaviour than expected in similar populations. (Kos & Rothberg, 1981).

A review of over 100 research projects from 1967-1979 on nurses in Canadian primary health care settings (Jones, 1980) reached the following tentative conclusions:

— there was more patient focus when nurses worked in PHC;
— patients and colleagues accepted the increased nursing component;
— utilization of other health care services (especially hospitals) decreased;
— employment of nurses in medical practices did not reduce quality of care; and
— financial implications for physicians were not conclusive.

Although the role of the nurse in PHC, as described above from the WHO Technical Report, has been accepted internationally, it has not been adequately accompanied by a refocus of the basic educational programme. In order to promote "the educational component", WHO is in the process of conducting a cross-national study in nine countries (Colombia, Israel, Jamaica, Republic of Korea, Malaysia, Nigeria, Philippines, Spain, Thailand). The project is examining the present methods and content of teaching PHC in basic nursing programmes, gathering proposals for changes, and then will prepare a model for PHC education in nursing.

Physicians and Dentists

Much of the literature on the work of physicians and dentists in primary health care deals with education for their role and attitudes to community involvement.

In Peru (Peru, 1973) they found that two-thirds of the physicians directing health centres had no training in public health. A study of dental manpower in Colombia (Colombia, 1972) revealed that 80% of the dentists resided in the three main cities, and showed a lack of interest in working in small communities.

Universities in many countries are adding primary health to their medical curriculum. One example is the Khon Kaen University in Thailand (Kawee-Tungsubutra, 1976) which altered the programme to meet the needs of the rural physician. They expanded the scope of social studies and clinical practice, and involved students in village health care from the second year onward. Countries such as Sweden (Holst *et al.*, 1977) prepare nurses and doctors for work in Third World countries in an intensive 10-week course. The programme includes social sciences, aspects of health planning, community health, tropical diseases etc.

Major Foci

The major foci of HMD — PHC research for the various groups of providers of care as found in a literature review were:

— *Auxiliaries:* safety of practice, effectiveness of care, acceptance by consumers and other health workers.
— *TBA and Midwives:* identify number and activities of TBAs, training for safer practice, expanded role to include family planning, nutrition etc.

— *Physicians' Assistants:* impact on medical practice, ability to serve as a medical practitioner in depressed areas or in community health.
— *Nurses:* expanded role in primary diagnosis and treatment, long-term care.
— *Physicians and Dentists:* education for PHC.

ONE COUNTRY — ONE PROFESSION

This paper so far has tried to present some idea of the kind of research which has been conducted for HMD in PHC. I would now like to give an example of some of the studies done with very modest resources on one profession in one country, and I will draw upon that area with which I am most familiar — nursing in Israel.

Research on nursing HMD in PHC in Israel must be seen within the context of the health system. Health care is available in every settlement for all residents through the Ministry of Health, and voluntary health insurance plans (85% of the population). These services include environmental health, health promotion, family health centres, primary and specialist clinics, hospitalization, long-term institutional settings and home care.

By standards of the industrialized countries, Israel has an over-supply of physicians, an under-supply of professional nurses, some nurse aids and a minimal number of traditional healers.

A number of problems in nursing manpower were recognized, and studies planned or carried out to seek answers. They are listed below in the order that they were undertaken during the past 20 years.

1. Increase the supply of nursing manpower with emphasis on professional nurses.
2. Improve the distribution of nurses, especially in understaffed services such as geriatrics and psychiatry.
3. Improve the utilization of nursing manpower in hospitals and PHC.
4. Determine staffing standards of nursing personnel.
5. Develop the PHC component in nursing education.
6. Promote the PHC approach and involvement of communities in health programmes.

A few of the studies and their impact on HMD are cited below.

One of the earliest and most urgent nursing manpower problems was the low recruitment into and high attrition from the schools of nursing: Shuval (1961) identified the girls attracted to nursing — those of lower middle class who were less successful in their high school education. This indicated the need to interest additional candidates. A study of attrition (Lesham, 1966) found that higher attrition correlated with lower general education. Educational entrance requirements were raised and as a result, more and better candidates enrolled, and attrition reduced.

A study of the teachers in schools of nursing (Bergman & Sharitt, 1971) found insufficient post-basic preparation for teachers and overuse of teachers' time in clerical activities. Follow-up studies two and ten years later showed a great improvement. Evaluation studies of university education for nurses (Eckerling, 1976; Shatzman &

Bergman, 1981) found that graduates were functioning in a more professional way, introducing change and continuing studies at the master's level. In other research projects, the impact of specific courses in the basic RN programme were studied — how to improve ethical decision making (Wagner, 1977) and reduce drug abuse (Bauman, 1977).

Analysis of the manpower supply and prediction of the nurses' retention in the workforce were covered in several studies. Findings exploded the myth that nurses leave the profession. Eighty percent of the graduates up to the age 60 were employed. However, the study did show that 50% of the RNs worked part time, and this caused a revision of employment policy (Bergman & Shavitt, 1975).

Studies on attitudes and satisfaction at work showed that the greatest influence on satisfaction was the work unit (Lomcozo & Klein, 1976). Some administration changes to decentralize control followed.

Working organization in hospitals was examined in many studies (Halevy & Ron, 1970). Based on the findings, staffing standards and job descriptions were changed in order to better utilize nurses. A recent similar study (unpublished) was conducted on staffing in family health centres. A study on how to best select, prepare and utilize the unit head nurse, the key person in patient care, developed models and guidelines (Bergman *et al.*, 1981). Studies on doctor nurse teamwork in primary clinics demonstrated that the team method improved and allowed more economic patient care. (Yodfat *et al.*, 1977). Clinical studies in PHC dealt with the nursing role in home care of chronic patients (Goldiak, 1977), continued care of psychiatric patients (Mizrahi, 1974) and many other areas.

These are but a few of the studies which are conducted by agencies, research institutes, university faculty and students. Together, they will slowly provide the knowledge needed for effective nursing manpower development in Israel.

CONCLUSION

The main impression of the present focus, major activities and desirable future trends of research in HMD, as indicated by this literature review, discussions with colleagues and personal experience are:

1. International HMD research is complex and expensive.
2. Comprehensive national HMD research is desirable. This type of research has been rather limited.
3. New research methods and additional resources are needed for locally-oriented studies.
4. Operational research is needed, particularly for long-term projects.
5. There is a paucity of research on financial aspects of HMD and geographical distribution of resources.
6. Auxiliaries and TBAs are providing important services in developing societies. More research is needed on aspects of safety of practice, basic and continuing education, and supervision of auxiliaries.

7. Nurses are a key resource for PHC manpower. PHC content should be expanded and evaluated in basic and post-basic programme. More research is needed on the role of nurses in primary care in developing countries.
8. Research on the physician's role in PHC, and his education for this role should be done.
9. Comprehensive national studies should be supplemented by in-depth ongoing studies on specific questions. If it is not possible to do a major national study, smaller studies should be part of a master plan which together provide a data base for HMD in PHC.

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APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

CONSTRAINTS ON HEALTH MANPOWER DEVELOPMENT RESEARCH

Ali A.I. Biely

INTRODUCTION

Research in health manpower development (HMDR) is a component of the larger area of health services research (HSR). The entire field of health services research is a relatively new endeavour in medical research that is already facing mammoth difficulties in all of its aspects. In looking at the current state of health services research in the United States of America, Gaus and Bolay[1], state, "It is apparent that the field of health services research is at a critical juncture. It is important, therefore, that we take stock of its accomplishments, analyze why it lacks political and budgetary support and determine a new course of action before the researchers in the field move on to the other endeavours." Within health services research, research on health manpower development — though recognized by many as a top priority area — has received minimal attention. This fact has been very aptly summed up by Bryant, in his article for this Conference, "There is a general lack of knowledge at all levels of the scope, purpose, need for and methods of health manpower development research; ...". (page 37).

The low priority accorded HMDR stands out as a very strange feature in a labour intensive industry like health services. And yet it is probably the very complex and uncertain nature associated with research on the behaviour of this human resource that has forced this paucity of research in health manpower development.

Given the complexity of the interrelationships in health care delivery systems, research on health manpower is inherently complex and difficult. The fact that research in health manpower has to take account of both providers and consumers of health services makes the task doubly difficult.

This inherent complexity of research on health manpower is at once both a demanding intellectual challenge and a constraint. There are several other constraints facing research on HMD that this paper will now attempt to discuss. For reasons of clarity and convenience these constraints will be grouped under the subheadings: professional, bureaucratic, technical and financial. It is acknowledged that the list is not exhaustive of all constraints and that the boundries between them are indeed faint and overlapping.

PROFESSIONALS CONSTRAINTS

The still basically negative attitude of the medical profession towards health services research in general is probably the most important single constraint on this research area. Among the reasons behind this attitude are that medical professions all over the world are traditional and strongly conservative bodies[2, 3]. In a milieu of this nature it is difficult to introduce change. But then health services research, including research on HMD, is nothing more than introducing appropriate change into health care delivery systems through policy action based on, "the systematic study of the means by which basic medical and other relevant health knowledge is brought to bear on the promotion of health of individuals and communities under a given set of existing conditions".[4]

In other words, health services research is a tool for the rational planning of health services in an environment used to 'irrational' and 'incremental' planning. Even more alarming is research on HMD which aims at rationalizing HMD to provide the right mix of skills for the right tasks at the right time and right place. One glance at the distribution of physicians in any country in the world will show that the inverse law of distribution of physicians in relation to the need for their services holds true. The medical profession's rigid and conservative attitude towards delegation of medical tasks to non-physician health workers makes HMD plans and the acceptability of research findings and their consequent implementation a very difficult endeavour.

At this juncture it is appropriate to comment on Bryant's and other views[5], that constraints on HMDR, within the context of the implementation of the primary health care approach, are applicable to both developed and developing countries. It is true that these constraints are operative in both settings. What is not recognized is the fact that constraints due to the conservatism of the medical profession are equally strong in both settings — if not more so in developing countries. What else would explain the fact that a group of well-trained enligtened young physicians of a West African country (with whom I have had discussions) do not accept the idea of allowing (certified) village health workers to administer intramuscular injections?

Or the fact that Congolese (Zaire) medical assistants in 1959, "who after studying abroad were subsequently able to meet Western standards of medicine, ... strongly opposed the continued training of this category of health workers, although the Congo was in manifest need of additional health personnel...". Although the Congolese physicians associated, "... the sheer existence of a status like that of medical assistants or 'graduate medicine' with Colonialism..." it is hard to exclude, without research, "an attempt to develop a status-image which would, 'endow them with the sacred mission of service' and which seeks to preserve professional autonomy".[6]

In the Sudan the new cadre of community health workers (CHWs) is being rejected by medical assistants and nurses on grounds of low standards of training and poor quality services. In fact CHWs are threatening long established interests of both categories who have until recently been the sole providers of health care to the rural population in the country.

Professional autonomy, clinical freedom, individualism in practice of medicine and biomedical research — all traditional pedestals of the teaching and practice for medicine — tend to inhibit research in HMD.

Medical professions are strong prestigeous social groups that are effective in lobbying at high policy-making levels. They are thus capable of endowing credibility on matters and issues that catch and serve their interests.[7] This is probably the explanation for continuing support of biomedical research though its so called rigorous experimental research design has lately been questioned as has its ability to solve health problems in spite of generous funding over the years.[4]

BUREAUCRATIC CONSTRAINTS

Several political and bureaucratic factors tend to constrain HMDR; and even more so the implementaion of its recommendations. Badgley and coworkers suggest that the interpretation of resistance to the implementation of health manpower planning can best be understood when looked at within the total context of the sociopolitical system of a nation; and not merely within the narrower context of its health services system.[6] In introducing the necessary elements of central control in HMD in a nation, one may encroach on wider horizons than those of the health servicers only. It is important to consider the political implications of HMDR since these can influence its acceptability and thus its future.

Policy makers, whom HMDR purports to serve through the provision of timely information for decision making, might be unwilling to wait for the long time necessary for the completion of health manpower studies. The extent of change that these studies suggest, as has been mentioned before, is usually threatening to strong social groups and well established bureaucracies. Thus policy makers are usually reluctant to implement recommendations.

The multidisciplinary nature of HMDR requires coordination and cooperation among several organizations and establishments. It might not be easy to cut across the rigid boundries of these establishments. Further the very nature of health manpower studies might involve those authorizing and supporting the research as subjects of the study. This situation could create uncomfortable feelings that might hinder research progress.

Institutions for the education of the health professions have a long history of independence in shaping and carrying out their activities. For example in the Sudan it is almost impossible to find the same curriculum in two different institutes producing the same category of health personnel. This individualistic character of educational institutions could hamper HMDR in two ways. First by not offering a base for research that might look into the institution's own activities and secondly by not collaborating in research of this nature. Several attempts by our department to collect research data on community health workers through their training institutions have so far failed.

TECHNICAL CONSTRAINTS

These relate to conceptual, methodological and personnel factors. These factors are intricately related to professional and other factors discussed above and are directly influenced by the financing of research on health manpower and health services research in general. The factors operating as technical constraints on research methodology and approaches will be dealt with by others during this Conference. Thus it will suffice here to briefly mention the general constraining effects in this area.

These are:

— Without resources to conduct more research to resolve methodological and conceptual issues in HMDR the situation will remain debatable for a long time. The only way to develop concepts, test hypotheses and refine methodology is primarily through doing more research. The concept of learning by doing is very apt here.

— The multidisciplinary approach requisite in HMDR — among disciplines traditionally brought up to solo research practice — is a formidable constraint. This is especially true of the attitude of the medical profession, whose role is central in HMDR and which has shown considerable reluctance to recognize and accept the role of other disciplines in HMDR.

— The extent of the intellectual challenge to develop and refine HMDR methodologies should have drawn the best brains in the various disciplines concerned. The dearth of trained personnel for this task is a constraint as well as an evidence for the lack of credibility, financial resources and a constituency for HMDR.[1, 4, 8]

— The fact that there is very little, if any, communication medium between research workers in HMDR is a considerable constraint. Knowing what others are doing in developing and resolving research methodologies is very important for sharing of ideas and avoiding unnecessary repetition.

FINANCIAL CONSTRAINTS

Very little money is available for health services research. In 1981 funds for HSR amounted to less than 0.1% of the national health expenditure in the United States of America.[1] More alarming is the trend to decrease resources over the years — government funding of HSR in that country dropped 69% during the past 10 years. Again in the USA, funds for HSR amounted to 5-10% of resources available for biomedical research. In the Sudan there are no funds for HMDR.

Another constraining effect of the funding mechanism is the instability associated with resources from programmes. Stability of funding would promote continuity of work, preserve memory about past research and help in retaining competent experienced personnel.[8] The refining and development of research methodology can

only be achieved through basic research. This can only be undertaken through stable funding independent of programmes.

The difficulties and problems associated with recruiting and keeping competent research workers are probably mainly financial. Complex financial regulations, the long time required before funds can be released to the workers and inadequate incentives and salaries are major constraints in HMDR.[9]

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ACTION FOR THE FUTURE

IMPLICATIONS FOR THE FUTURE FOR HEALTH MANPOWER RESEARCH

T. Fülöp

INTRODUCTION

It has become abudantly clear during the deliberations of this important Conference that nowhere is the need for a radical reorientation, for the development of new approaches, for different strategies to those used hitherto, more urgent and more demanding than in health manpower development (HMD). Not least because manpower represents the most important and costly resource in the provision of health care. It has been estimated that three out of every four dollars spent on health services are paid in salaries. The health service spends more than five times as much on manpower as it does on buildings, equipment and drugs combined. In spite of this, the relative importance of manpower is often overlooked. It is not only the relative cost, but without manpower responsive to the health care needs of the entire populations of their community, without manpower dedicated to and able to function effectively in promoting health by actively engaging in the prevention of disease and in rehabilitation as well as curative care, the target of Health for All by the Year 2000 (H/2000) cannot be reached. It cannot and will not be reached if there is not an appropriate health manpower policy, if the cost-effectiveness of the training programmes is not optimal, and if those trained are unable to practise at the most appropriate level of their competence.

NEED FOR HEALTH MANPOWER RESEARCH

It has been clearly established that health manpower is a key factor in achieving Health for All (HFA) by the year 2000 and that important changes have to be introduced to achieve an integrated development of health services and manpower (HSMD) if this manpower is to fulfil the tasks expected from it. Relevant manpower policies and strategies will have to be worked out and/or revised, crucial decisions both at national and at institutional level will have to be made if manpower able and willing to work, where needed and in the most effective way, is to be available by or even before the year 2000.

Those decisions will have to be made, not in the distant future, but today and tomorrow. It is sad to see that policy makers continue to make important decisions based on belief rather than on informed judgements derived from careful study of alternatives. How much longer can it be tolerated that important decisions about health service provision, about particular health procedures, about what kind of per-

sonnel is needed, with what kind of competence, and who and how to train for what job, should be made without careful, rigorous investigation of what is proposed.

To develop manpower in sufficient numbers, and perhaps even more important, manpower able and willing to provide *effective* health care (quality), presents a formidable challenge. The policy to be adopted; the planning necessary; the strategies to be used; the development of appropriate resources and the application of effective and efficient processes, all contain at this stage many "unknowns". There is therefore an urgent need to search for solutions to old and new problems, for research to identify potentially useful ways and means that countries committed to the achievement of HFA can apply. There is an urgent need for research which will provide the necessary basis for sound decisions, for research that can lead to policy formulation, programming, detailed planning and evaluation.

No one today would introduce a new biomedical procedure, a drug without careful testing. There are millions spent on biomedical research. Is it not equally important to assess scientifically the application of new methods before their introduction into the health services and health manpower field and to do the same with the effectiveness of existing HSMD practices? The answer must be a categorical affirmative.

There is, therefore, a real need to develop, strengthen, and utilize to the full the research capacities and capabilities in health manpower research in all countries of the world, but especially in developing countries where problems are the greatest and such capacities often rather limited.

HEALTH MANPOWER RESEARCH

Research in HMD is an integral part of health systems research since it is both oriented towards, and indeed justified by, the contribution it can make to improve health service systems. Results of this research should be directly used by decision makers while considering their decision alternatives, especially concerning the introduction of necessary changes in the national and subnational HMD systems and in their subsystems.

HMD research as an integral component of health systems research should include dealing with problems pertaining to all fundamental elements of HMD, namely policy making about planning, production and management of health personnel in relation to all personnel who may contribute to the health care system.

In some countries quite extensive research work has been done in the field of education and training ("production") but very little in other domains of health manpower problems. However, in most countries of the world practically everything remains to be done. As health manpower research is recognized as a priority in the majority of countries, obviously there is a need to elaborate national action programmes; international governmental and non-governmental bodies have to work out their own programmes so as to collaborate as required in the preparation and implementation of those programmes.

NATIONAL ACTION NEEDED

At national level there will be a need to a) elaborate a consistent health manpower research policy as an integral element of health systems research policy, b) identify those health manpower problems at national and subnational level that require research, and establish their priority order, involving in the process the decision makers, i.e. the potential users of research results, c) plan the training of both research workers and the decision makers, d) invite institutions as well as individuals to work on identified priority research problems, e) organize the training of research workers and of potential users of research data (decision makers), f) ensure the financing of research work from internal and, if needed, from external resources, g) organize the circulation of research results among the decision makers concerned, and h) carry out studies to find out how far: 1) research results are used for decision making, and 2) health manpower decisions are based on research-based data and facts.

Evidently to carry out all these tasks there is a need for a designated national body to plan and organize health manpower research at national and subnational level. Where a national health development network has already been established, one of its important functions will have to be to deal with the planning and organization of health manpower research as an integral element of health systems research. It will have to prepare the national action plan and see that it is implemented.

It must be seen clearly that if manpower research is to maintain its rightful place as part of health systems research, we shall have to promote it in all possible ways, and then follow closely how and to what extent data are consistently used in making policies and decisions that affect national health development. Subsequently, we shall have to examine the alternative policies and strategies the data suggest to resolve important and persistent priority health problems to determine if they are feasible and effective.

THE ROLE OF WORLD HEALTH ORGANIZATION

The World Health Organization has a role to play as a catalytic agent, promoting, supporting and coordinating national development in this field. The aim of the Organization's activity is to promote and support the building-up and strengthening of national research capabilities and commitment in the HSMD field, primarily in the developing countries. The Organization's collaboration with its Member States is targeted at the further development of their capacity to identify and solve local problems by carrying out research aimed at improving the relevance and effectiveness of the HMD process (planning, training and utilization), as an integral element of health services development.

Member States of the Organization, in the process of the consultations preceding the preparation of the 1984-1989 medium-term programme, identified health manpower research as a high priority. Activities in this field are therefore now foreseen in the medium-term programme of the Organization for the years 1984-89. Among other things it is planned that institutions will be supported to strengthen their

research and research training capacity in HMD. Regional and national training activities in research management and research methodology will be organized and supported. Research training as an integral component of education of all categories of health personnel will be promoted. A network of institutions engaged in HSMD research will be promoted. Collaboration with countries will be enhanced in the development of research policies, in the allocation of priorities and plans for the development of national resources for health manpower research, and in the implementation of such research. The aim is to promote the achievement of national self-reliance in planning and carrying out HMD research into priority problems and in utilization of the research product in the decision making process.

Therefore another area where collaboration is envisaged is the promotion of training and orientation of potential users of research data (politicians, government officials, school leaders and other health manpower decision makers) as to how to identify research data needs, how to obtain and then utilize those data for decision making.

THE ROLE OF THE COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES

This Conference of CIOMS has given everyone the opportunity to become more acutely aware of the need and importance of research in the health manpower field as one of the ways to solve the relevant and critical health problems in countries. The lively discussions, and the enthusiasm expressed here, indicate clearly an awakening of interest in the need for this kind of research to provide countries with a solid basis on which to make policies and decisions affecting their manpower development as an integral part of their health development.

If all the participants of this Conference take this message to their countries and regions, it will be a step in the right direction and afford the CIOMS the opportunity to stimulate the development and implementation of action programmes through national associations. That would be the greatest result of this meeting: action at country level in the form of elaboration and implementation of national action programmes to promote the development of national capability to carry out manpower research and to utilize its results in decision making. The success of this meeting will be measured by the number of such action programmes.

Another meeting of the CIOMS in, say, about five years, could devote part of its agenda to a discussion on whether health manpower research has actually been carried out in countries, to what extent, if it has earned its place as an essential element of health development, and then to outline further plans of action.

CONCLUSIONS

Concerted action of government agencies, institutions, nongovernmental organizations and others concerned, with support from WHO and other inter- and

nongovernmental agencies, is needed to ensure that health manpower relevant to needs and in optimal quantity will be available for the achievement of HFA. The HMD research necessary to provide the solid basis for decision making in that action has to be developed. For that it is necessary:

(1) that critical analysis of existing policies and practices is encouraged and that alternatives are actively sought. In other words, that there is a commitment to explore different options, that planning is not just — "to have more of the same". And primarily, that decision makers actively seek to obtain adequate information based on sound research evidence prior to making their decisions which affect future developments;

(2) that adequate resources are provided and present resources differently apportioned, to give priority to support research efforts oriented to provide for informed decision making in health manpower development;

(3) that appropriate mechanisms are developed in every country which are responsible for promoting such research and ensuring that research is both relevant to local needs and is given the support referred to above;

(4) that resources are deployed for adequate training of research workers as well as decision makers, and for the research work itself, that development of research methodologies is given priority, and that there is ongoing evaluation of the research carried out, including its planning, execution and utilization.

It is hoped that the discussions at this Conference will greatly contribute to the development of health manpower research and through it to the achievement of HFA/PHC.

HIGHLIGHTS OF THE CONFERENCE

THE SPIRIT OF THE IBADAN CONFERENCE

T. A. Lambo

That the CIOMS/WHO Conference on Health Manpower Development Research was held in Ibadan, Nigeria has a special significance.

First, the subject of research in health manpower development is crucially important to progress towards the goal of the World Health Organization of health for all by the year 2000, yet the full development of the field of that research faces many obstacles and constraints. So, the outcome of the Ibadan conference was of first level importance to the nations of the world.

Second, Nigeria is the most populous of African nations and, in terms of economic development, one of the most advanced. While Nigeria faces many severe problems in its own development, it has taken on to itself the role of continuing concern for the plight of the African peoples in general. Nigeria is striving both domestically and internationally to ensure progress towards equity and justice, including in health, as embodied in the goal of health for all. Thus, Nigeria was proud to host this Conference that dealt with a subject so close to its own most fundamental concerns.

Third, the University of Ibadan was one of the first fully indigenous universities in Africa and has remained one of the continent's premier institutions. Its own objectives are steadfastly bidirectional: to maintain the highest international standards, on the one hand, and to serve the most basic needs of the nation on the other. Here, too, the subject of the Conference was perfectly consistent with the purposes of the institution.

While the Conference fitted remarkably well into the social, political and academic milieu of Ibadan and of Nigeria, it was the immense breadth and quality of the international participation that gave the Conference its full value. Ibadan and Nigeria provided the stage, CIOMS and WHO the cast, but it was participants who worked through the agenda of this important subject who are responsible for the product. Their sensitive insights and practical recommendations are in fact, substantial additions to our global understanding and intent of action in relation to health for all.

THE NATURE OF THE CHALLENGE*

John Bryant

INTRODUCTION

The national development of health manpower — its planning, production and management — in ways that are reasonably efficient as well as relevant to the needs of populations, is one the crucial and largely unmet challenges in the health sector today.

Underlying this challenge and to a large extent shaping it, is the growing global commitment to bring essential health services or primary health care (PHC) to entire populations, a commitment that is embodied in the goal of health for all by the year 2000, adopted by all Member States of the World Health Organization.

These two efforts — the development of health manpower and the development of health services, both aimed at meeting the needs of entire populations — are closely interdependent. Health services planned for total coverage of a population but lacking the appropriate quality, mix and distribution of health manpower become a lost promise; health manpower, developed without regard for the formulation and content of effective health services, risks missing the most pressing needs of the population. But the effective interaction of these two lines of health development is at once complex and difficult to coordinate: complex from a sheer technical perspective because of the problem common to both of planning and managing scarce resources to meet enormous needs; and difficult to coordinate because different and frequently conflicting agencies and professional groups have authority over the development of health services on the one hand and health manpower on the other.

Within these interactive and interdependent relationships there are many unresolved questions relating to health manpower development (HMD), such as:

— what levels and competencies of health workers are required for primary health care aimed at total coverage of populations?
— what are the most effective types of relationships — coordinative, consultative, or supervisory — among health workers?
— how should the health workers relate to the individuals and communities to whom they are providing services?
— what should be the interaction of health with other aspects of development, and how should that affect the roles of health workers? and
— how should the appropriateness and effectiveness of health workers, and of their training and deployment, be evaluated?

Such questions bring the matter of research on health manpower development into focus, for clarification is needed on these questions if planning and policy making in relation to health manpower development (HMD) are to be carried out in a sensible

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*Drawn from the Conference paper: Bryant, J. Health for All: A Challenge to Health Manpower Development Research. The Nature of the Challenge (pages 21-39 of the present work).

manner. Nonetheless, attention currently given to research on such questions is very limited. An oddity of the health sector is that while 60% to 80% of health system budgets are absorbed by salaries of health personnel, almost nothing is spent on trying to clarify areas of ignorance that could lead to more effective production and use of those personnel.

The reasons for this gap are many, but amongst the more important are:

— lack of definitive policy-making mechanisms for health manpower development in many countries;
— lack of respect for research on health manpower development as an authentic research area (in contrast, for example, to biomedical research); and
— lack of individual and institutional capabilities for health manpower development research (HMDR).

At present, any realistic hopes for progressing toward more extensive coverage of populations with essential health services requires simultaneous advances in both health services and health manpower development, and in both cases enhanced capacities for relevant research are crucial.

The Ibadan Conference was designed to explore one major component of this area, namely research on the development of health manpower, particularly as that relates to primary health care. The participants, agenda and dynamics of the Conference were planned so as to probe at the issues and develop outcomes that would contribute to their progress.

RECENT DEVELOPMENTS IN HEALTH FOR ALL AND PRIMARY HEALTH CARE; IMPLICATIONS FOR HEALTH MANPOWER DEVELOPMENT

There are already enough examples of primary health care extending to total populations under conditions of extreme scarcity of resources to know that the central intent of health for all can be achieved even in the poorest countries, at least under selected circumstances.

At the same time, hundreds of millions of people in developing countries have no reasonable access to even the simplest forms of primary health care, with the result in many settings that children are unimmunized, mothers are without antenatal and obstetrical care, populations are untreated for treatable conditions, and communities are uninstructed and uninvolved in health matters and health programmes.

These two extremes reveal some of the possibilities and problems of grappling with the concept of health for all. Given the major emphasis in current approaches to health manpower development, namely, its integration with health services, particularly in primary health care as it relates to the provision health for all, it will be useful to review some of its recent developments. The intent here is not to consider in detail how these developments in primary health care might influence the planning, production and utilization of health manpower, but more simply to call attention to the kinds of problems, relationships and questions that need to be taken into account in thinking about health manpower development and related research.

The Challenge of Total Coverage

Foremost among the factors that shape primary health care programmes is the imperative that entire populations (community, district, regional, and national) should be covered with health services. Where total coverage is not possible, the effort should be to provide relevant services to those most in need or most at risk. Either approach calls for an epidemiological view of the health problems of the population, an understanding of the health services' components that are potentially available and a planning and management capability for joining the two.

Now let us consider the implications for health manpower development. Health personnel throughout the primary health care system should understand the general intent of coverage, whether total or selective, and be able to participate in:

— gathering the epidemiological information necessary to define needs and risks and their distribution in the population;
— identifying effective components of the health services that have been or could be developed to address those problems;
— setting priorities in the context of the interaction of needs and services;
— negotiating appropriate programmes through sociopolitical processes;
— providing services; and
— evaluating the outcomes.

A particular problem for the development of health manpower flows from the fact that the capabilities of health personnel involved in these efforts vary greatly — from community health workers with a few months of preparation to health professionals with many years of training — yet they must interact with one another on each of the above activities. The members of the health teams are not only interactive but interdependent: those at the periphery depend on those located more centrally for policy decisions, supplies, training and supervision; and those at the centre depend on those at the periphery to make information available for policy formulation, to engage communities in the process of health development and to participate in the provision and evaluation of health services.

Integrating Health with Other Aspects of Development

Another aspect of primary health care that is increasingly recognized as necessary, is the integration of health development with socioeconomic development more generally. (Indeed, here is a place to see a distinction between *health services* for all and *health* for all.)

Health programmes have little chance of taking root when pursued in communities where lives are steeped in poverty and despair, where men find the land unproductive and women have neither avenues for income nor status within their families and communities, and where people have become resigned to the hopelessness of life. Experience in a number of countries indicates that such communities must first be helped to grapple with these fundamental problems and to learn that even within their poor communities they have resources and skills to bring about substantial improvements in their lives. Subsequently, there is an increased likelihood that they will be ready to deal with health as a part of a broad pattern of working constructively

with the problems and possibilities of community life. They will see that early death and disability are no longer inevitable, and the treatment of disease and protection of health will become another area in which communities can learn to control their own affairs.

Other aspects of development — the building of irrigation systems; arranging bank loans for small businesses for women; poultry raising; overcoming class, tribe and caste discrimination — can be carried out side-by-side with health programmes, and all programmes will benefit from cooperative approaches among workers at the community level.

Reverting to the distinction between *health services* for all and *health* for all, even when health services *per se* are available to all, they may not be used effectively by a destitute and despondent community whose priorities are employment, water, food and shelter. It is only when such a community is able to progress in these most fundamental areas of human want, that they can also absorb and benefit from opportunities to develop in the health sector as well.

What then are the implications for health manpower development? All health personnel, particularly those who will deal directly with communities, should understand the fundamental relationships between health and development; they need to have a sense of how the dynamics of even the simplest steps of community development can prepare the ground so that health programmes can take root (for example, the enhanced role of women in the family and community can contribute to their greater effectiveness as mothers); they need to appreciate how health programmes can contribute to development more generally (for example, the organization of a community around health issues can be a step toward the community organizing itself for other aspects of development); and they need to understand that the *process* whereby the community is involved in steps toward its own development, is the crucial factor in the ultimate evolution of that development.

Involving the Communities

A major advance in the development of primary health care has been a much broader involvement of communities in the planning, support, staffing and execution of health-related programmes. Programmes of primary health care increasingly engage the participation of the social and political organizations of communities, draw on community resources (ideas, commitment, land, buildings, crops, and funds) and use community health workers.

In considering the health manpower implications, the relationships between the health personnel and the community are social and political as well as technical, and favourable impacts on health depend, in part, on the effectiveness of those relationships. The personnel most directly involved at the community level have the greatest social affinity but the least technical training. The community health worker should have the social closeness and technical capability to identify members of the community who are ill or at risk, serve as the channel for reporting information that assists in the formulation of strategies, and also carry recent advances in biomedical and public health technology into these programmes. Those abilities of the communi-

ty health workers will depend extensively on the effectiveness of the consultative and supervisory relationship with other health personnel in the primary health care system.

A Three-Tiered System of Primary Health Care

Over the past several decades, there had been a gradual dawning of recognition, and now it is accepted as obvious, that physicians acting as the sole providers of medical care (even when assisted by nurses and other personnel) cannot reach more than a tiny percentage of the population in need. More recently, and following largely from this recognition, extensive use has been made of other types of personnel for health care (variously called medical assistants, rural health officers, etc.), but they too have been found seriously insufficient for total coverage of populations.

Apparently it was necessary to experience failure in these efforts before the possibility opened to proceed to the next step, namely, the widespread use of community health workers. Even that step is not without its problems — these workers have been successful in some settings but less so in others — nevertheless the concept adds importantly to the potential for achieving total coverage.

A three-tiered system is now widely accepted as a reasonable and practical arrangement for primary health care: community health workers, often part-time, function within communities; auxiliaries, or middle-level manpower, are based at health posts or dispensaries; and physicians and nurses work at and out of health centres or district hospitals (other levels or tiers could be regional and central hospitals and health offices).

The supervisory and consultative relationships among the tiers are crucial. The anomaly, is that health workers of vastly different capabilities see and care for the same set of people and problems. The least trained, most peripheral, must know enough to make decisions about every patient — the nature of the problem, its urgency, whether to treat or refer, and whether preventive of promotive steps are appropriate. Personnel at each of the several levels make a similar judgement, conscious of the capabilities and limitations of those at other levels, aware of the need to train or be trained, to seek or provide consultation, according to their capability and the nature of the problems encountered.

A point can be made here about the medical care, that is the diagnosis and treatment component of health services. An emphasis understandably is focused on the patients who reach the health workers. But these workers must also be continuously alert to the problems and needs of those who do not seek them out. Indeed, a mistaken priority of medical care is that the patients who seek care, even when their problems are medically trivial, should take precedence: an outlook that can waste resources in relation to need and obstruct the development of outreach and preventive programmes that could benefit larger proportions of the population.

These four examples of recent developments in primary health care — the imperative of covering entire populations; the interaction of health development with other aspects of development; the more extensive involvement of communities in planning, supporting and providing health services; and a three-tiered system of

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primary health care — all contain substantial areas of innovation. This broad area of health services and manpower development is in a highly dynamic state of change, and, undoubtedly, will continue to change as the world strives to provide basic health services to a growing population. Thus, the need to bring creative thinking and systematic research to bear on this complex of problems is compelling indeed.

RESEARCH AND HEALTH MANPOWER DEVELOPMENT

In the coming decades, the development of health manpower resources will involve issues that are radically different from the past. The evolution over the past three decades of policy issues of major concern to WHO and Member States underscores the rate of change; the ways in which primary health care has developed in the quest for health for all, signals the extent of change that is underway.

If the rate and extent of change are great, so is the degree of uncertainty. New policy issues flow from the insistence on total coverage, including new formulations of the cost-benefit equation and new ways of looking at the wastage of health manpower between production and utilization. New types of health workers functioning in new locations with new competencies call for new modes of training and evaluation. Established approaches to health manpower development, which have been of questionable effectiveness in relating to the needs of populations, require reassessment.

These approaches can only be partially followed through our intuitive approaches from the past. The issues are too complex and the stakes are too high to rely on those same methods and systems that have led us to inefficiency, waste and outright failure in health manpower production and utilization in the past.

In the midst of such change and uncertainty, there remains the enduring understanding of the purpose and value of research: to reduce uncertainty and bring clarity to areas of ignorance. Thus, the potential contributions of research to health manpower development are very great. But our research capabilities in this field are undeveloped, uncoordinated and fragmented. In its current state, this research, as a field, simply cannot rise to the challenge of supporting the movement toward health for all by the year 2000.

The Historical Evolution of Attitudes and Policies Toward Health Manpower Development

A recent analysis by Fülöp and Roemer[1] describes the evolution of attitudes and policies relating to health services and health manpower over the past 35 years. The historical trend has been from a predominant concern for quantitative production and international quality standards of health professionals to an emphasis on the development of health manpower integrally related to health services oriented toward the needs of entire populations.

These trends are of much more than historical interest. Behind them and flowing from them are highly dynamic national actions. National policies are being made to

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[1]Fülöp,T. and Roemer, M., *International Development of Health Manpower Policy*, WHO Offset Publication No. 61. World Health Organization, Geneva, 1982.

pursue the concept health for all. Immense investments are being made in national infrastructures of primary health care. These commitments are often made out of a national sense of political necessity and urgency. They are being made without full clarification of the implications for the design and functions of the health services, without full understanding of the new roles and relationships that are mandated by those policies and without the research and development apparatus that is needed to support and guide the changes these policies call for.

The point is, countries are not waiting for refined answers to the health services and manpower questions. They are taking the preemptive political decisions to go forward with policies to attain health for all.

Research on health manpower development is seriously in arrears and it must catch up if it is to serve the larger purpose of the movement towards health for all. There is justifiable concern that this movement, which has great vulnerabilities, might flounder without effective health manpower development supporting systems.

Structural and Organizational Weaknesses of Health Manpower Development

A curiosity of research related to the development of health manpower is the extent to which its weaknesses are derived not from the scientific questions it addresses, but from the very professions to which it relates. For much of science, the major obstacles have to do with the complexty of the research questions and the mysteries of the subject — the cell, man, society, the universe. There are tough scientific questions to answer, as well, but many of the obstacles to health manpower development research are made by ourselves such as:

— a lack of understanding of the research itself, its scope, methods and uses;
— financing systems that are weighted against non-biomedical research;
— a lack of coordinating systems for relating research outcomes to health services and health manpower development policies; and
— an unwillingness of planners, educators and managers of manpower to share the problems.

So we must consider how to work within our own ranks to develop more effective structures and mechanisms for supporting and using this field of research. Our consideration must deal with the full range of research parameters:

— the nature and methods of research on health manpower development;
— the kinds of problems that call for research approaches;
— the obstacles and constraints to such research; and
— the steps needed to develop viable national systems of research on health manpower development that are supportive of the research and provide mechanisms for linking that research with policy and programme formulation.

The agenda of the Ibadan Conference was developed so as to focus on these issues in formal presentations, workshops and plenary discussions.

STRUGGLING WITH THE ISSUES: THE GROUP DISCUSSIONS

The high point of the Ibadan Conference was the participation of more than one hundred distinguished and widely experienced health professionals in discussion settings where they creatively explored this complex and important topic. Four Groups were formed, each to pursue a different aspect of health manpower development and research. The Groups were urged to go beyond the usual noting of interesting problems, and to specify policy questions with which decision makers should be concerned and actions that might be taken.

The Groups responded with remarkable efforts to single out practical policy issues and related action steps:

Group I made the case that sensible use of health manpower is absolutely essential to making progress toward health for all and that effective approaches to health manpower development and related research are necessary to that end. The Group described a series of Policy Issues undergirding that thesis, and, as an action step, recommended that every nation should establish a high-level national body on health manpower development.

Group II laid out the prerequisites for effective approaches to health manpower development and its research, including their inherent linkages with health services research. The Group specified various kinds of research that need to be done, ranging from task analysis to decision making in health services. (This Group also dealt with the matter of organizational structures for health manpower development and research; that material was incorporated into the report of Group III.)

Group III described approaches to research on health manpower development, including the kinds of questions to be addressed, the disciplines and competencies required to do so, and what is required to develop and support these approaches as an effective field of research. This Group, incorporating material from Group II, also specified organizational arrangements that are necessary to function effectively in national efforts to develop its health manpower.

Group IV took the interesting line of describing constraints in this field in terms of demand for and supply of health manpower development research. The Group then capped the persistant interest of all groups in organizational arrangements for this research by presenting a schematic approach to a strategy for its development and use. While theoretical in nature, the schema nonetheless represents a brilliant conceptualization of the relationships among the parties that must be involved in health manpower development and its research and the dynamics their interaction must take if there is to be effective national use of health manpower.

INTERACTION BETWEEN HEALTH FOR ALL AND HEALTH MANPOWER DEVELOPMENT

V. Ramalingaswami, Chairman Group I; F.S.J. Oldfield, Rapporteur.

The nations of the world have warmly endorsed and adopted the goal of health for all through the primary health care approach as enshrined in the Alma-Ata Declaration of 1978. Yet, the national development of health manpower in ways that are efficient and relevant to the health needs of populations is one of the crucial and largely unmet challenges of providing health for all.

There is at present a gross mismatch between the development of health manpower and fulfilment of health needs. This discrepancy will be accentuated further when the broader needs of primary health care with its holistic approach to health are taken into consideration. It is obvious that profound changes are needed to align health manpower development policies to the goals of primary health care. New types of health workers functioning in new situations with new skills will call for new and innovative forms of training and evaluation. Established approaches to health manpower development, which have been of questionable effectiveness in relating to the needs of populations, require critical reassessment.

In view of the broad canvas of the primary health care approach, requiring intersectoral and interdisciplinary action, it is more appropriate to consider the development of manpower needed for securing health than to be restricted to health manpower development alone. From this standpoint, health manpower development should relate to and be part of overall national manpower development.

Although deficiencies in health manpower development may take a different form in developing than in developed nations, the issues are generic to all nations and must be addressed globally if health for all is to be achieved.

POLICY ISSUES

Health must not be seen in isolation but, must articulate with other aspects of development, be fully integrated with them and form a part of the national development plan.

An essential feature of primary health care is involvement of the community in planning, decision making, providing health care and sharing resources.

The concept of health must encompass preventive, promotive, curative and rehabilitative aspects of health care. This notion must permeate all strata of the health manpower structure.

The health team concept is a key element of primary health care. While the numbers and types of personnel that constitute the team will vary, the nature of the tasks to be done are such that the team must be multidisciplinary and interdisciplinary. It must therefore have the right mix of disciplines for specific locations and situations.

National health agencies must build expertise within their structure in such fields as education, agriculture, environment and housing. Without such expertise, health agencies cannot effectively promote and guide the involvement of other sectors in line with the primary health care approach.

New scientific knowledge can contribute significantly to improvement in the provision of health care. The results of appropriate research must therefore be applied in service programmes as soon as possible. In this connexion, education and training of health personnel should not only incorporate relevant advances in health sciences but also be sufficiently dynamic to adapt to changing health needs of each society.

Funds for health services are in general quite meagre. Not only is there a need to increase the level of funding, there is also a need for more judicious use of scarce resources. The cost of health manpower constitutes a large proportion — 60% to 80% — of health expenditures. Research is necessary to ensure the most efficient and effective ways of utilizing its manpower.

Health Services Research (HSR) is essential for the effective development of health services, and health manpower development research is essential for the rational use of health manpower. There are many uncertainties and unanswered questions that need to be clarified otherwise useless efforts and great wastage will result. Health services and health manpower development research can assist in finding new alternatives and in providing cost-benefit assessments. Budgetary support specifically earmarked for these areas of research is necessary.

There must be mechanisms to ensure the flow of information on manpower development programmes and research both within and between countries.

ACTIONS

Actions need to be taken to develop viable national systems of research in health manpower development that are supportive of its research and provide mechanisms for linking the formulation of research priorities and research outputs with overall health policy and programme formulation.

In order to achieve health for all, every nation should establish a high level national body on health manpower development, either within the Ministry of Health or on an interministerial basis. The body would have representatives of not only the various ministries in the government connected with primary health care services but also universities, other training institutions and the community. Such a structure would embody coordinated responsibility for the development of health manpower.

This national body:

— would be responsible for promoting, planning, and monitoring research in health manpower development and translating its results into action on a national level;
— would be responsible for planning the appropriate types and numbers of health manpower to achieve health for all on a national basis and for overseeing the implementation of that plan;
— would pay particular attention to the development of health manpower for preventive as well as curative care and discourage the training and use of health

manpower for inappropriate technologies that might impede or prevent the achievement of health for all;

— would emphasize the retraining and reorientation of vast numbers of health personnel, that are already in position, with respect to the principles of the primary health care approach; and

— would be concerned with the current phenomena of lack of employment opportunities in various categories of health personnel in the face of the glaring need for them, of the flight of talented personnel from the country and related problems, and analyse the factors responsible and suggest remedial measures.

(See Figure I, page 165 for a diagrammatic representation of national organizational arrangements such as those described above.)

HEALTH MANPOWER DEVELOPMENT RESEARCH THAT NEEDS TO BE DONE

G.C. Salmond, Chairman Group II; R. Bergman, Rapporteur.

PREREQUISITES FOR EFFECTIVE APPROACHES TO HEALTH MANPOWER DEVELOPMENT

An Information Base

Adequate information should be available at all levels within the health care system, including:

— vital statistics and demography,
— health problems and their social and economic impact,
— risk assessment,
— resources available in terms of finance, manpower, facilities and supplies, and
— utilization of services.

Research is required to develop appropriate information needs to be set for each level.

Objectives and Goals

In the light of available information and within the resources available, objectives and goals must be set at all levels within the health care system. Research is required to delineate how such objectives and goals can be set and used.

A Programme of Health Services Research

Each country should develop a capacity to undertake health services research. Efforts should be made to develop research programmes that can provide national insights into the major problems of health care. Research in health manpower development is an important part of this larger effort.

RESEARCH NEEDED IN THE FIELD OF HEALTH MANPOWER DEVELOPMENT

Task Analysis and Role Definition

Research is needed to identify the tasks and define the roles at all levels within the health care systems. Educational, preventive, supportive, health service management and administrative tasks and roles should be prescribed.

Particular attention should be paid to the primary care level: What can people do for themselves? What other community resources may be available — traditional healers, traditional birth attendants, voluntary workers — and what can be done to make these people more effective?

Account should be taken of:

— capacity for community self-help and social support,
— available finance and manpower,
— desirable patterns of referral, and
— potential for intersectoral activity.

Planning Health Manpower

Research is required to develop planning methods and simple but robust manpower planning models that are easily understood and reliable to use. Such models need to take account of:

— basic demography,
— stated health objectives and goals,
— defined roles and tasks,
— available manpower resources,
— demand and supply factors,
— resources available for training and employing health workers,
— cost-effectiveness of alternatives, and
— available technology.

Production of Health Workers

In the light of available information and the manpower plan, research is required on the recruitment and training of health workers, including:

— who is to be trained,
— how they are to be selected,
— what the content of training should be,
— how they should be trained,
— where they should be trained,
— with whom they should be trained,
— what the cost will be, and
— how they should be evaluated.

The aim should be to produce workers of the types and numbers required with particular attention to the preparation for primary health care. This will involve recruiting and training new types of health workers, possibly requiring radical changes in existing recruitment and training methods. Research is required into what these changes should be and how they might be undertaken.

Management

Research is required into the managerial procedures needed to optimize the use of available manpower, including:

— organizational arrangements that will accelerate the integration of health promotion, disease prevention, curative and continuing care functions;

— productivity standards, quality control, and utilization reviews;
— deployment comprising staffing patterns, team work, productivity agreements, incentive schemes, and coverage programmes;
— systems of support and supervision;
— referral systems;
— career development programmes;
— continuing education activities; and
— funding.

Particular attention should be given to research aimed at effective recruiting and retaining of health workers in professionally unattractive situations, such as rural areas and urban slums.

Social Research

Social research is required to study the motivation and interrelationships of health workers, including:
— what motivates health workers?
— What are their career aspirations and expectations?
— What happens if these are not met?
— What factors determine career and geographical mobility?
— What incentives may be used to recruit and retain workers of the required type in places they are needed?
— What factors determine acceptance of health workers by communities?
— What are the important interactions among health workers and between health workers and communities?

Decision Making in Health and Health Services

Research is required into the processes of decision making at all levels in the delivery of health care, including technical, administrative and political decision making, namely:
— at what levels should decisions be made?
— Who should be involved in decision making and how?
— How can communities be more involved in decision making?
— How is information used in decision making and how could or should it be used?
— How can we in the health sector become more involved in health-related decision making in other sectors?
— How can the aims and potential of primary health care be brought to the attention of politicians, bureaucrats and clinicians?

Research is required to understand better these decision-making processes. Political scientists, anthropologists, sociologists, economists and other social scientists are needed to join with health services administrators in developing national insights into these matters.

(See Figure I, page 165 for a schematic representation of decision making in relation to health manpower development and associated research).

APPROACHES TO AND SUPPORT OF HEALTH MANPOWER DEVELOPMENT RESEARCH

H.G. Pauli, Chairman Group III; J. Barker, Rapporteur.

APPROACHES TO AND COMPETENCIES FOR HEALTH MANPOWER DEVELOPMENT RESEARCH

The Nature of Health Manpower Development Research

This type of research has the purpose of linking in effective ways the development of different categories of workers in health and health-related fields to the needs of the country.

Approaches

The research needs to approach manpower problems from a variety of perspectives, namely *inter alia:*

— categories and numbers of workers;
— task analysis and role definition, including implications for training;
— components of primary health care services, including: type of service, e.g. nutrition, immunization; institutions, facilities; categories. competencies and mix of workers; arrangements for referral (consultation); system for supervision (continued training);
— potential for community involvement, including community resources, capacities, organization, internal relationships, interests and perception;
— economic factors in the provision and use of services, including non-monetary factors; and
— accessibility to and coverage by services, including characteristics of users.

Competencies Required

The breadth of the questions to be addressed in health manpower development and related research requires that a variety of disciplines and competencies be involved, generally through interdisciplinary approaches, including:

— epidemiology and health information systems;
— sociology and anthropology;
— economics;
— health administration, especially planning, management and evaluation of primary health care;
— clinical sciences, particularly in relation to tasks and roles in primary health care; and
— educational technology in the health sciences.

SUPPORTING THE FIELD OF HEALTH MANPOWER DEVELOPMENT RESEARCH

Developing and Supporting the Field

Research in health manpower development needs to be seen as an essential resource to health services and to health manpower policy-making and planning. Its development needs to be shared among ministry, university and other participants but with well understood focal points and linkages. Concepts important to the development of the field include:

— policy makers must understand and encourage the use of research in health manpower development;
— researchers must understand and be responsive to the needs of policy makers and providers of care;
— a career structure for health manpower development and its related research must be apparent including the perceived likelihood of sustained support over time;
— as a research field, health manpower development must have credibility alongside other fields of science, including peer review from both inside and outside the field; and
— there needs to be a system of communication of emerging concepts, projects and methods among those doing research and using its output.

Organization and Location of Support Systems for Health Manpower Development and Research

Research in health manpower development cannot take place in a vacuum. There must be a national capability in health planning and health services research and health manpower development planning and research take place within that larger context. However, explicit organizational arrangements are needed to ensure the support and full use of its development and research potential.

National health planning, including manpower planning, will generally be in the Ministry of Health but should be in association with other employers, educational and training institutions and providers of health services. The focus for health services and health manpower development research can be located in the Ministry as well, or in closely related institutions or agencies, such as universities.

The organizational structure for both health service and health manpower development research needs to ensure the appropriate interaction of these functions with planning, policy-making, health services and manpower-development functions, and to stimulate, support and promote the utilization of the research output.

(See Figure I, page 165 for a diagrammatic representation of such an organizational arrangement.)

CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH — AND AN ORGANIZING FRAMEWORK

W.A. Hassouna, Chairman Group IV; T.F. Abduljader, Rapporteur.

CONSTRAINTS ON HEALTH MANPOWER DEVELOPMENT RESEARCH

Nature of the Constraints

— there is a lack of specific knowledge and skills;
— there is limited motivation to ask for, carry out or use such research;
— there is limited information about the nature and strengths of research in that field;
— there are inadequate means for communicating the results of research in the field of health manpower development; and
— there are inadequate funds to support either capacity buildings in this field or individual research projects.

Constraints in Terms of Demand and Supply

Constraints can also be viewed from the perspectives of *demand* — the forces or attitudes relating to the call for and uses of research in health manpower development; and *supply* — the capacities for and interests in producing such research:

DEMAND	SUPPLY
• Lack of motivation to use research findings.	• Lack of research capabilities.
• Reluctance to allocate funds for research in health manpower development.	• Lack of orientation and interest in national issues on health manpower development.
• Lack of overall health and health manpower policies, including research policies.	• Resistance of researchers to programmed research.
• Lack of problem identification.	• Lack of incentives.
• Low priority for health manpower development research.	• Institutional rigidities.
• Professional opposition to innovative approaches in health manpower development.	• Lack of supportive infrastructure for research.
• Lack of research management mechanisms.	• Methodological constraints.
	• Lack of experience in marketing research and in evaluating cost and profit.

STRATEGIES FOR DEVELOPING AND USING HEALTH MANPOWER DEVELOPMENT RESEARCH

At the national level, research in health manpower development necessarily involves a number of parties. They can be seen as falling into three centres or loci for action:

The Health Decision Network: the decision makers in the Ministry of Health and other providers of services who set policies on the numbers and types of health workers who are to be trained and used, and who will decide on the usefulness of research in health manpower development in formulating those policies.

The Community Needs/Demands Complex: the community, in the broadest sense, with its actual and perceived needs; its interaction with health services, including its utilization of and demands for services; and its potential for participating in the planning, provision and evaluation of health services.

Research and Training Institutions: universities, institutes and agencies, including those of the Ministry of Health, that are involved in the education and training of health manpower as well as research on the planning, production and management of health manpower.

These three centres of action must interact effectively with one another. When any one of the three acts in ignorance of or in isolation from the others in planning, programming or evaluating, its effectiveness is compromised if not negated. But the three do not have a history of close and effective interaction. Consequently, national priority must be given to the development of effective arrangements — in structural and policy terms — for the constructive interaction of these three centres of action.

The arrangements or mechanisms will vary from country to country, but the three centres of action will be similar as will be the major interactions among them.

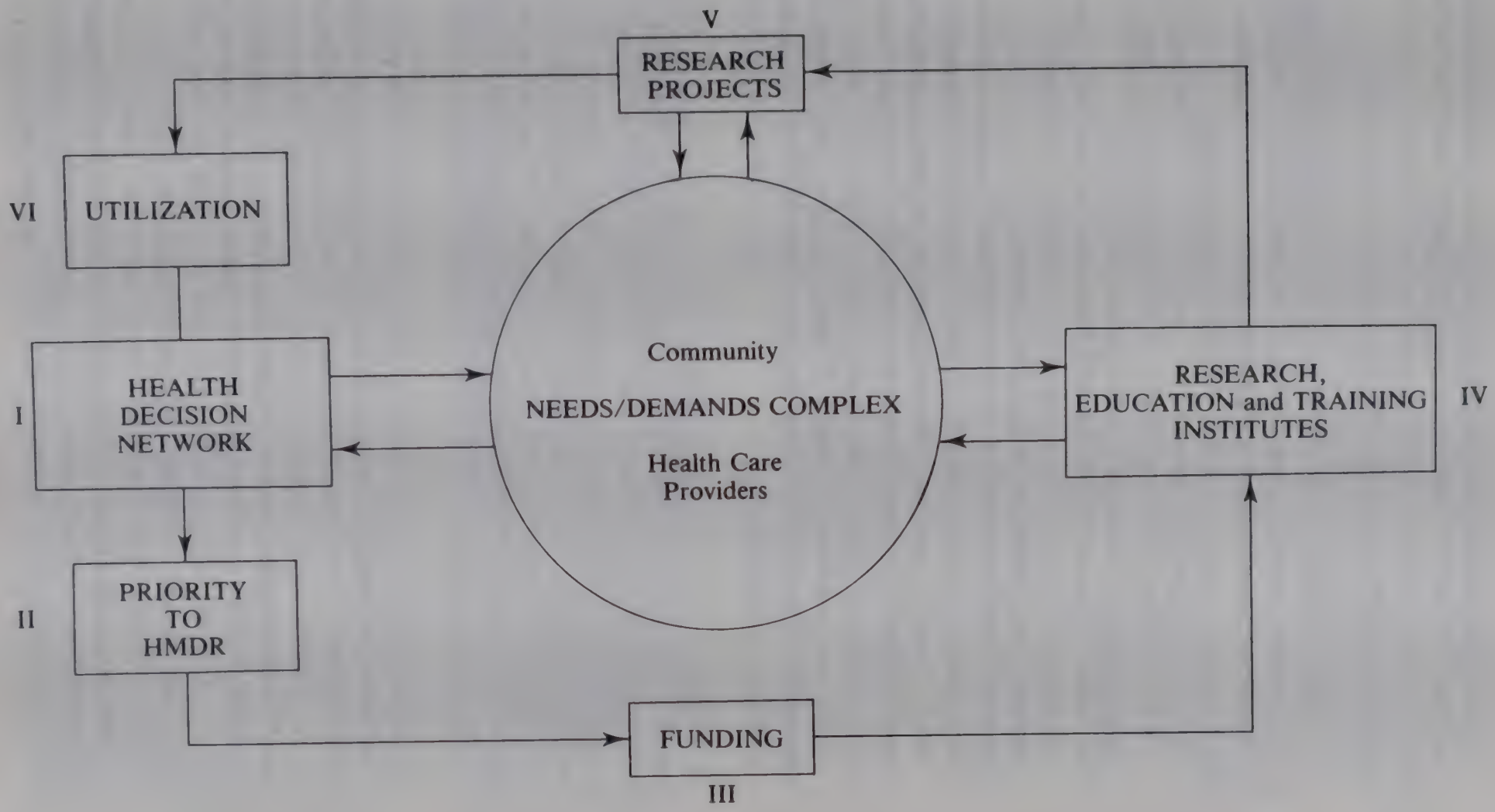
Figure I depicts a schematic representation of relationships among the three centres of action. Admittedly idealized, the schema calls attention to the sequence in interactions among the various parties, including the inherently cyclical and iterative nature of the interactions. The sequence is generally as follows:

I. Beginning with the *Health Decision Network,* it is clear that if there is no interest in research in health manpower development at this level, there is little likelihood of an effective and integrated approach to the problems of the development of health manpower. Attention must be given to the appropriate orientation and motivation of the decision makers, including the effort to convince them by evidence of the usefulness of research in health manpower development in their dealing with day-to-day problems of the Community Needs/Demands Complex.

II. The decision makers must give *Priority to Health Manpower Development Research,* but not as an isolated action. Within the context of national health policy, a national research policy is required that will give priority to and provide support for research in health services and in health manpower development, leading, then, to the development of a plan for research in the latter field.

Figure I

SCHEME OF INTERACTION AMONG
DECISION MAKERS, EDUCATORS AND RESEARCHERS IN THE FIELD OF HEALTH MANPOWER DEVELOPMENT
IN RELATION TO PRIMARY HEALTH CARE AND HEALTH FOR ALL



III. *Funding* is essential for the support of these areas. Without stable and sustained resources for building individual and institutional capacities for the fields of both research in health services and in health manpower development, little research will take place and few researchers will be attracted to either field.

IV. Given emphasis on research in these two fields, at the highest levels of the Health Decision Network, together with the availability of resources, the *Research, Education and Training Institutions* can develop a coherent approach to the research and educational aspects of health manpower development:

— To ensure relevance of these efforts to the reality of community needs/demands and to the plans and programmes of the health services, these institutions must have continuous access to representative field settings.
— To ensure coherence between health services to be provided, roles to be filled and training to be carried out, there must be effective coordination among planners, producers and managers of health manpower.
— To assure the usefulness of research on health manpower development, researchers must relate to and involve planners, producers and managers of health manpower; research questions must be important to decision makers and marketable among them; since research will be mainly interdisciplinary in terms of both the composition of health teams and the disciplines involved in research, arrangements are needed that will bring together the various disciplines; and research management processes are needed that will facilitate and strengthen these complex relationships.

V. Following from the above, *Research Projects* will have to be formulated and pursued in relation to realistic field settings that include present and prospective roles of health personnel, that relate to the production potential of the education and training agencies, and are of interest to the Health Decision Network. To ensure relevance to realistic problems and to increase receptivity to research results, participation in research projects should include, where appropriate, those whose problems and programmes are implicated in the research questions; these are the community, providers of health services, producers of health personnel, and decision makers.

VI. Ensuring *utilization* of research results may require active promotion of interest and support, shaping research questions to fit the policy interests of decision makers on the one hand, or educators and trainers, on the other. Calling attention to the costs or wastage of programmes in health manpower development that ignore research findings might assist in the marketing process. The research process will have to be sensitive to the time constraints of the decision makers: that is, the results can be useful, if rough answers available today may find their way into policy formulation, while refined answers available tomorrow may be too late.

While the precise organizational arrangements for research in health manpower development must be decided within each national context, this schema presents the relationships that need to be taken into account if health manpower development and related research are to be effectively linked to national needs.

REFLECTIONS ON THE CONFERENCE

John Bryant

The opening presentations to the Ibadan Conference appeared to attach a special sense of importance to the subject of Health Manpower Development Research (HMDR) for Health for All (HFA).

> This is a moment of historical opportunity.
>
> V. Ramalingaswami
>
> We are developing countries in a hurry.
>
> D. C. Ugwu

What was behind this sense of importance and urgency? Surely the cry for equity and justice that under the concept of health for all is one factor. Another, fully as important, is our knowlege that this concept has been shown to be possible even within the resources of the poorer countries, at least on a small scale.

This yearning for equity and justice together with the possibility of real progress towards them gave this Conference a special sense of purpose and even of hope that something of enduring usefulness could emerge from its deliberations.

But those who attented the Conference were not naive. They know the task is immense and the obstacles are intimidating.

> The changes needed are radical. Health for all will not be achieved simply by following a linear extension of current approaches to health care.
>
> V. Ramalingaswami
>
> The conservatism of the health professions makes radical change difficult if not impossible.
>
> E.O. Akande
>
> There are serious problems of communication among those who work in primary health care. One of those is to confuse excellence with sophistication.
>
> O. Ransome-Kuti

Again and again the Conference returned to the health professionals themselves as obstacles to the extensive changes that are necessary to achieve real progress toward health for all.

This kind of dichotomy — the need for radical change versus opposition to change — appeared on several occasions directly related to research in health manpower development.

- HMDR is an important field of science, *but* it is little known, little used and has no prestige; and
- Research is an essential component of the health manpower development process, *but* it is largely ignored by those responsible for the planning, production and management of health manpower.

This constantly felt tension between the necessity for radical change and the extreme difficulty of bringing it about raised the fundamental question: might we not fail altogether? We say health for all is crucially dependent on the appropriate use of health manpower and therefore on its sensible development, yet we acknowledge the intertia, the obstacles, the steep opposition to change. *Are we not thereby spelling out the doom of the HFA movement?*

None at the Conference went that far. Such scepticism was not part of the meeting. But the doubts were acknowledged, and an effort was made to be realistic about the obstacles by addressing them directly through action recommendations.

The Roles of Communities

No doubt was left as to the importance that the Conference placed on the community in terms of both meeting its needs and involving its people in the planning, provision and evaluation of health services.

> We must work to build healing and self-reliant communities.
>
> V. Ramalingaswami
>
> To understand the community... listen.
> Man is not stone. Listen, with empathy.
>
> W.A. Hassouna

A key issue of the Conference was the difference between *Health Services* for All and *Health* for All. The way in which the community is involved in health affairs demonstrates this difference. Health services can be available to all, but be neither relevant to the needs of all nor used by all — a substantial shortfall from health for all. Health services made available as a service to a waiting community is not the intent of the Alma-Ata Declaration.

The active participation of communities, in which they bring their own resources to bear on defining and dealing with the health problems of their entire population, is essential to the concept of health for all. It is the movement toward building self-reliance and lessening dependencies in health, coupled with appropriateness, effectiveness and affordability of health services, that brings us close to the full meaning of "Health for All".

The Interaction of Health and Development

The broader needs of communities in terms of socioeconomic, environmental and agricultural development were emphasized. There was a sense of the necessity of relating health to other aspects of development but uncertaintly as to how to proceed.

Primary health care must be integrated with development generally and linked with the multiplicity of other efforts — schools, labour, agriculture. Primary health care must move out of the cloister of the health sector.

D. Lantum

We argue about Health for All and Health Services for All. We should first be concerned about Food for All, Water for All and Shelter for All.

A Participant

It was pointed out that some countries have already taken definitive steps in the direction of integrating health and the more general aspects of development. India, for example, has a number of primary health care demonstration projects in which the basic decision was made that communities could not be expected to give serious attention to health when they were deeply imbedded in poverty and lived with a sense of hopelessness that their lives could be made better. There one finds examples, supported by evidence, of health and development reinforcing one another.

Health Manpower Development Research as an Emerging Field of Science

The role of the social sciences in health services research and health manpower development research is huge and fundamental.

W. A. Hassouna

Social research can make the gaps in health services explicit, so they become sparking points for innovation.

J. van Dijck

Innovations in the use of health manpower are not unusual in developing countries, but research to evaluate them is.

B. O. Osuntokun

In emphasizing the importance of research in health manpower development as an emerging field of science, the Conference identified salient differences from traditional approaches to scientific research and some of the areas where the strengths of this new field are to be found.

Traditional scientific methods with their emphasis on quantification and controlled experimentation have limited applicability to complex, multivariate social problems where research outcomes are highly unpredictable. Here, descriptive case studies, surveys, quasi-experimental methods and philosophical/historical inquiries are often more appropriate.

Traditional research in the health sector tends to overconcentrate on micro-level problems in order to achieve incremental changes. The objectives of such research are usually to ease bottlenecks rather than to deal with macro-level issues, where alternative policies and creative strategies are needed. But this approach of basing new developments on extrapolations from the existing system is doomed to fall far short of the changes necessary to reach and involve entire populations in the development of effective health care.

> Researchers sometimes use academic freedom to escape from relevance. Policy makers sometimes use research to postpone action.
>
> J. van Dijck

Traditional research also tends to deal with problems that fall within the skills of individual scientists, rather than to take a multidisciplinary approach that allows a broader definition of research questions. Health services research (HSR) and HMDR require multidisciplinary and transdisciplinary approaches to multivariate problems*. Individual disciplines and individual scientists have to take roles that are subordinate to larger team efforts.

One of the problems of building a field of science was illustrated by the impracticality of the research training that young scientists are receiving in the developed countries, and how they are often virtually useless when they return to the limited research environment at home. In response, it was pointed out that building science is costly, and there will be victims along the way. We must try to minimize the number of victims, but we must proceed to build the science.

Finally, the lack of credibility of this field of research, including the difficulty of competing effectively with biomedical science for funding, must be met head-on by attracting good scientists, developing quality research programmes, and subjecting the work to peer review both nationally and internationally.

> To demand prestige for health manpower development research is not enough. We must provide useful information to the policy makers.
>
> T. Fülöp

The Organization and Management of Health Manpower Development Research

The crucial role of management was a recurring theme, as were the importance of supervision at all levels of the system and the need to educate ourselves and our leaders about the importance of HMDR.

A subject that was to become the most important focal point of the Conference was the need at the national level to build a mechanism or framework within which such research could function, be supported and contribute to policy making. The inherent characteristics of HMDR — multidisciplinary in subject, transdisciplinary in method, needing to relate to planners, producers and managers of manpower, and having an obligation to respond to community needs — require a framework that positions it with effective access to a variety of agencies, institutions and programmes as well as to the community itself. The Conference was given a national example of such a

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* *W.A. Hassouna* explained his view of disciplinary involvement in HSR and HMDR: multiple disciplines are required for research in these fields (multidisciplinarity); their work together must go beyond interaction of disciplines (interdisciplinarity); to understanding one another's fields so well as to transcend their boundaries (transdisciplinarity).

framework (New Zealand). W.A. Hassouna, on behalf of Discussion Group IV, presented a generalizable concept of such a framework.

> Financial support for Health Services and Health Manpower Development Research is both scarce and unstable.
>
> A.I. Biely

Concern was raised that in discussing such mechanisms, either our observations might be so general as to useless to countries, or our more specific recommendations might not be relevant to given national situations. The point was then made that the nature of the framework was very much a national affair. As it turned out, the schema developed by Group IV (Fig. I) appeared to represent a balance between generality and specificity so as to be adaptable to a variety of national situations.

Extensive discussion centred on the economics of health manpower development, particularly on how market forces influence the planned manpower sector. These market forces can lead to unintended consequences of policy making: for example, training programmes may be developed and positions established in the public sector for a particular cadre of manpower, but competing economic incentives of the market place may then draw those workers into other employment.

> Policy makers need to ask: Are the incentives in the manpower market place consistent with the plans we are making? To be blind to the possibility that market forces might lead in a different direction is to invite policy failure.
>
> C. Castro

The Dilemma: The Need for Radical Change where Change is so Difficult

As the Conference neared its closure, the dilemma posed at the beginning remained on the table: the need for proceeding with radical change... in a field where change is very difficult. While the dilemma was not resolved, there was agreement on the necessity to be clear on what the focus of change should be.

The point was made emphatically that it is not mainly nor primarily HMDR that should be the object of radical change. Rather it is primary health care itself.

Primary health care is doomed to failure if it is:

— seen as mainly technological (rather than developmental);
— developed as a linear extrapolation of existing systems;
— pursued with the goal of incremental extensions of coverage with health services; or
— concerned largely with marginal changes in professional values.

HMDR linked to such limited concepts of primary health care, using research to achieve incremental improvements, will help to refine the wrong systems.

PHC must strive for coverage of total populations, but with a development orientation in which community needs are the focus of concern, and in which community potential for participating in its own care, reducing dependencies and increasing self-reliance are emphasized and encouraged. Thus PHC becomes a part of development

more generally. New roles, new cadres, new relationships, new forms of training and supervision are necessary.

The radical change required is to this kind of primary health care. Health services and related health manpower development research are essential to its development. But without recognition and acceptance of community-oriented primary health care, there is little likelihood that research in those fields with that orientation will be accepted and used. The most important opposition to overcome is that to community-oriented PHC.

> It is necessary to turn around the over-development of the medical system. The majority of our (U.S.A.) medical graduates are going into primary health care, but with a clinical orientation. An awakening of a community orientation toward PHC is imperative.
>
> F. Mullan

What kind of action strategy should be used to deal with this resistance to change toward community-oriented PHC?

Figure I was developed to support health manpower development and related research, but it will serve the larger purpose of addressing the primary health care problem as well. *Further, it emphasizes in structural terms the unseverable connexions between primary health care and health manpower development:* neither can be considered seriously or extensively without the other.

The schema identifies three centres of action:

- The Health Decision Network
- The Community Needs/Demands Complex
- The Research and Training Institutions

A multiplicity of factors are at work obstructing or slowing efforts to develop more effective PHC systems. These obstructing factors are to be found in one or another of the three centres of action. The reasons for resistance and the values underlying those reasons vary among the three centres and, of course, within each, for there are extensive differences in professional background, institutional orientation, career interests and experience among them.

Each centre of action, or its components, needs to be dealt with through its own channels and value systems. Arguments that would have weight among health services administrators might have little among research scientists, and the predominate concerns of the community might be distant from those of the other two sectors. It does not require a hardened sceptic to known that each focus of interest is fully capable of acting in isolation from others. Nonetheless, each can appreciate that it is part of a larger whole, that national concerns should be held paramount. Each, in fact, is susceptible to influence, be it social, academic, scientific or political.

The usefulness of the schema is that it keeps before us the terms of reference of two larger concerns:

First, *it is Primary Health Care with the community orientation of Health for All that is the common and overriding purpose of the three sectors.* That purpose should serve to shape the objectives and targets for each sector, which immediately takes on a shared quality among the three.

Second, *none of the three sectors can act reasonably in isolation from the others.* To the extent that is recognized, communication, planning and coordination among the three become necessary, and, in the best of circumstances, accepted as a matter of course. Action by one becomes contingent on the others and serves in turn as a basis for action by the others.

Realistically, it is not likely that the parties involved will act in such concert with one another in country after country. These ideas will be received with heavy scepticism by some, as too contrary to established structures and relationships by others, and will not even reach the awareness of still others.

It is in the nature of change that time is required for new ideas to be heard, diffused and considered by those who might be affected by them. A crucial step is for the ideas to gain what might be called "good currency", that is, to be generally accepted among one's peers and within one's area of influence as having value and as being "the thing to do." A further necessary step is for the ideas to be so widely accepted that creative application and modification of them becomes decentralized and widely spread so that secondary foci of creativity develop and spread — what might be referred to as "going critical" in the process of change.

An extremely important point is that primary health care, oriented as described here, is already well into that process. Such health care is not always well understood and is often misapplied, but the central concepts have a worldwide spread, and decentralized creativity is to be seen in many places.

Nonetheless, as noted, resistance is high and progress is slow. *To a substantial extent, the slowness of progress in the PHC movement is due to the immense complexity of applying the concepts in large social and political systems.* Such complexity has much to do with the difficulties inherent in achieving coordination among disparate institutions and agencies and across traditional disciplinary boundaries.

We return to the unseverable connexions between primary health care and health manpower development and to the paired obstacle they face. It is precisely this complexity of application and difficulty of coordination within large social and political systems that is an obstacle to progress in both PHC and HMD. In both instances, the technical questions are challenging, and health services and health manpower development research are essential resources for dealing with those questions. But it is the difficulty of dealing with the context — its size, its multivariate nature, the organizational and disciplinary fragmentation, the political forces and the decision-making process — that nearly paralyses efforts to move on with fresh approaches to PHC and HMD.

Understanding the nature of that obstacle is the first step toward dealing realistically with it. The Conference recognized this and identified as one of the vital outcomes of its deliberations the importance of increasing the awareness of those in this field to the need to deal concretely and explicitly with the problem of organizational arrangements that will position PHC and HMD and related research in effective relationships with decision makers, providers of health services, the community and the training and research institutions.

WHO envisaged the needed actions in its Medium-Term Programme for the period

1984-1989 in which concrete plans are spelled out for collaboration with countries. The programme in particular addresses the promotion of the development of research policies, the allocation of priorities, and the development of national resources for health manpower research. Special attention is given to the promotion of development of national research capacity through strengthening of existing institutions, in collaboration with WHO and in collaboration between countries. WHO envisages to promote the training of consumers of the research outcome. The plan considers issues like the definition of researchable problems and the training in the use of research data in decision making.

At the end, the Conference believed that it had addressed problems of major moment in the lives of people in all countries. It was determined, however, that this not be merely another meeting of well-meaning people who gather, think, talk, are inspired and take their leave without further effect. The problems are too important and the human needs too great to allow ourselves to come and to go so easily. While solutions are not near at hand, reasonable directions are apparent.

A further reason the Conference put forward for not turning away from these problems had to do with the special contribution the health sector can make to other problem areas. Health has the advantage of capturing the universal concern of mankind. However difficult the problems and complex the arrangements needed for dealing with them, there is no questioning the ultimate intent of health programmes. Around health, all nations, political factions, races, religions, tribes and economic groups join. It is here, possibly, that nations and organizations can learn to solve problems that often appear to be without solution. If so, then is it not also possible that the world might learn from this, however small the lesson, to deal somewhat more effectively with its problems that threaten the peace?

THE CONFERENCE DECIDED:

(i) That the major ideas it examined and the observations and conclusions that flowed from them should be summarized and published rapidly, so that interested persons could read and respond to its ideas as quickly as possible (see introductory note, page 3 to whom responses could be directed).

(ii) That CIOMS considers how and on what schedule it might undertake to pursue findings and recommendations of the Conference.

(iii) That WHO supports the dissemination of the ideas developed in the Conference and ensures their utilization in all relevant programmes.

(iv) That individual conference participants seek specific situations in which the ideas of the Conference might be applied, particularly in national situations.

(v) That its major observations and recommendations be encapsulated in *The Ibadan Resolution.*

THE IBADAN RESOLUTION

on Health Manpower Development Research for Health for All

The nations of the world have warmly endorsed and adopted the goal of Health for All (HFA) as enshrined in the Alma-Ata Declaration of 1978. Strategies and plans of action for the achievements of the goal have been prepared at national, regional and global levels.

Meaningful progress toward HFA is heavily dependent on the sensible development of health manpower. Without careful development of manpower integrally related to appropriate health services, irrelevance, ineffectiveness and waste are inevitable. The comprehensiveness of primary health care (PHC) and its relationships to development should lead us to think broadly in terms of manpower that might have an impact on health, rather than narrowly in terms of health manpower alone. Thus, health manpower planning must be intimately related to manpower planning more generally.

The central themes of HFA are:

— universal coverage with Primary Health Care that is relevant, effective, acceptable and affordable in terms of the needs, culture, interests and resources of each community;

— participation of communities in the planning, provision and evaluation of health services in ways that promote self-reliance and lessen dependencies; and

— integration between health and the broader aspects of development so as to be mutually reinforcing.

These themes place exceptional demands on the development of health services and manpower and related research.

There are exceptional technical and specific complexities involved in developing the health services; in planning, producing and managing the manpower; and in determining their effectiveness. Health services research (HSR) and health manpower development research (HMDR) are absolute requirements for dealing effectively with these problems.

There are exceptional problems involved in developing Health Manpower Development Research as a field of science. The complex and multivariate problems call for multiple disciplines to work together in integrated research. This field of science is not yet mature — in the development of its scientific style and methods; in being acknowledged as an authentic field of science; and in influencing policy makers in the health services and manpower sectors.

There are exceptional organizational and managerial problems involved in achieving coordination among planners, producers and users of health manpower, and in how HMDR should relate to them, particularly since these sectors often differ widely in their primary interests and are often not accustomed to interacting with one another.

But there are serious risks that these challenges will not be met, that instead limited and inadequate steps will be taken to advance toward the goal of HFA. PHC developed mainly as linear extrapolations of existing systems, seeking incremental extensions of coverage with health services, is doomed to failure.

Radical changes are required in concepts of health care and its relation to development, in the roles of health workers and in the participation of communities. Such development-oriented and community-oriented primary health care needs to be promoted and pursued as a strategy essential to progress toward HFA. HSR and HMDR are key elements in that process.

The Ibadan Conference examined and discussed these issues with great care and concern, and emerged with the conviction that certain action steps are essential:

- Development-oriented and community-oriented primary health care needs to have the continued and determined support of the nations of the world as the major pathway to health for all.
- Priority must be given to bringing research to bear on the problems of health services and health manpower development, particularly as they relate to PHC. To that end, attention must also be given to the promotion of HMDR as a field of science. Governments, institutions and agencies whose resources and policies relate to health services and manpower development need to consider how they can contribute to capacity building in this important area. The World Health Organization is in a particularly strategic position to support these developments through its international influence on health-related policies and programmes.
- A crucial action required of each country is to establish a clearly identified focus for Health Manpower Development and related Research. Such a focus may be located within a Ministry of Health or elsewhere within the network of interested parties, as determined in each national context. Such an organizational arrangement is necessary to ensure that national priority is given to Health Manpower Development and related Research; that the necessary political will and administrative commitments are generated; and that the relevant decision makers, producers and users of health manpower coordinate their interests and actions and both call for and make full use of both Health Services and Health Manpower Development Research.

Conference Agenda

Wednesday, 24 November 1982

OPENING OF THE CONFERENCE
M. Belchior
President
Council for International Organizations of Medical Sciences

WELCOME ADDRESSES
D.C. Ugwu
Federal Minister of Health of Nigeria

S.O. Olayide
Vice-Chancellor
University of Ibadan

E.O. Akande
Provost
College of Medicine
University of Ibadan

KEYNOTE ADDRESS
T.A. Lambo
Deputy Director-General
World Health Organization

SESSION I: HEALTH FOR ALL: A CHALLENGE TO HEALTH MANPOWER DEVELOPMENT RESEARCH
Chairman: J. Bryant

The Nature of the Challenge	J. Bryant
The Policy Issues	V. Ramalingaswami
Economic Aspects of Health Manpower Development	A. Griffiths*
Health Manpower Development Research: The Nigerian Experience	A.B. Suleiman*
OPENING OF DISCUSSION	T.O. Ogunlesi
DISCUSSION	

SESSION II: THE RESEARCH REQUIRED FOR HEALTH MANPOWER DEVELOPMENT
Chairman: V. Ramalingaswami

General Perspectives	C.M. Castro
Health Services Perspective	J. Kostrzewski*
Health Manpower Planning and Management Perspective	G.C. Salmond
Educational Perspective	O.O. Akinkugbe
OPENING OF DISCUSSION	D.A. Olatunbosun
DISCUSSION	

*Unable to attend

Thursday, 25 November 1982

SESSION III: APPROACHES AND CONSTRAINTS TO HEALTH MANPOWER DEVELOPMENT RESEARCH

Chairman: B.O. Osuntokun

Research Approaches	H.G. Pauli
Methods of Research	T. Fliedner*
Competencies Required of Researchers	B.O. Osuntokun
Credibility and Validity of Research Findings	J.J.J. van Dijck
Approaches of Various Disciplines	W.A. Hassouna
Review of Present Focus and Major Activities	R. Bergman
Constraints on Health Manpower Development Research	A.I. Biely
OPENING OF DISCUSSION	B.K. Adadevoh
DISCUSSION	

SESSION IV: GROUP DISCUSSIONS

Group I: Policy Implications of the Interaction between Health for All and Health Manpower Development
Chairman: V. Ramalingaswami
Rapporteur: F.S.J. Oldfield

Group: 2 Policy Implications of Health Manpower Development Research that Needs to be Done
Chairman: G.C. Salmond
Rapporteur: R. Bergman

Group: 3 Policy Implications of Approaches to Health Manpower Development Research
Chairman: H.G. Pauli
Rapporteur: J. Barker

Group: 4 Policy Implications of Constraints on Health Manpower Development Research
Chairman: W.A. Hassouna
Rapporteur: T.F. Abduljader

Friday, 26 November 1982

SESSION V: GROUP DISCUSSIONS

Recommendations for Action Programme on Health Manpower Development Research
— Issue
— Action
— Locus of Responsibility

PLENARY SESSION
Reports of Group Discussions

SESSION VI: ACTION FOR THE FUTURE

Chairman: M. Belchior

Summary of the Conference Findings	J. Bryant
Implications for the Future	T. Fülöp
DISCUSSIONS	
CLOSING ADDRESS	T.A. Lambo
FORMAL CLOSING	M. Belchior

*Unable to attend

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